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Tight IT Budgets Impair Planning As War Looms

Companies lack funds for disaster protection

BY DAN VERTON

Regardless of how imminent a U.S.-led war in Iraq might be, IT budget constraints are preventing many companies from taking appropriate security and disaster-preparedness measures to defend themselves against possible retaliatory terrorist strikes.

It's not necessarily that the threat is being ignored. It's just that the money many IT managers would like to have to combat it just isn't there.

John Ervin, a systems ad-
Companies, page 53

States struggle to pay for homeland security

BY PATRICK THIBODEAU
WASHINGTON

States are rapidly taking steps to standardize systems, eliminate IT redundancy and cut expenses in order to fund cash-strapped homeland security initiatives.

State IT spending will rise slightly this year, much of it going to improve administrative and health systems, Federal Sources Inc. forecast last week. But new IT projects will

be rare, because funding by Congress for homeland security is less than what IT managers say they need.

"It's extremely frustrating," said Rizwan Ahmed, whose duties include serving as CIO of the Louisiana Department of Natural Resources. Federal homeland security officials have asked his agency to help produce geographic information system maps of critical oil and gas pipelines. Although the mapping is getting done, "it's at the expense of some of our own projects," he said.

A telling sign of the bleak outlook was offered last week by FSI President James Kane at the company's annual state conference. Of approximately 500 potential IT spending projects that FSI is tracking -- projects that haven't yet been put out to bid -- two-thirds are on hold.

States, page 53

ARE YOU READY FOR WAR?

IT leaders must secure their companies' digital assets, says Patricia Keefe. Page 20

Top Execs Demand Data Now

But legacy systems hamper delivery of real-time information

BY THOMAS HOFFMAN

A growing number of CIOs say they're facing increased pressure to deliver real-time financial and operational data to their CEOs and chief financial officers, who want to be able to react more quickly to changing business conditions.

The problem is, many IT departments are struggling to meet such demands due to legacy system constraints and half-baked enterprise application integration efforts that haven't been aligned with corporate business processes.

Extracting financial and operational information for use by business managers "takes us weeks," said Steve Scott, vice president of IT at Vision Service Plan, a Sacramento,

Calif.-based eye care benefits administrator that serves 36 million people in the U.S.

Scott was one of several technology managers who noted the challenges posed by real-time reporting demands at *Computerworld's* Premier 100 IT Leaders Conference late last month. He said VSP is currently constrained by a 23-year-old financial system that it plans to replace within the next 12 months. Scott added that VSP is looking to install a

Real-Time Data, page 16

New BEA Tool Wins Guarded User Support

Developers wary of proprietary features

BY CAROL SLIWA
ORLANDO

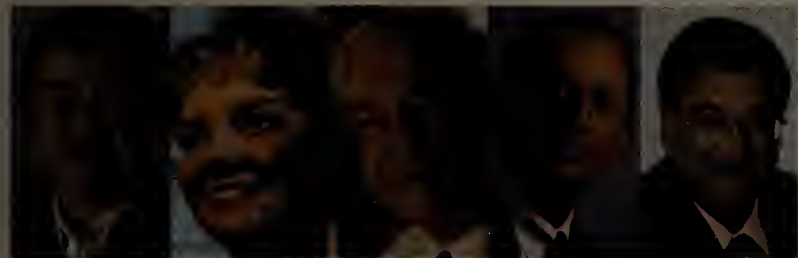
BEA Systems Inc.'s new WebLogic Workshop 8.1 tool drew mixed reactions -- sometimes from the same person -- at the software maker's eWorld conference, held here last week.

The allure for many users is the point-and-click, drop-and-drag tool's potential to boost developer productivity. Several developers called Workshop compelling, and some referred to it as "Visual Basic for Java," referencing the Microsoft Corp. tool known for its ease of use.

But there's a trade-off for the new features. Many users took note of various proprietary application programming interfaces and class libraries in WebLogic Workshop 8.1 that they fear may re-

BEA Tool, page 15

Breaking Outsourcing Barriers



OUTSOURCING WATCH 2003

CIOs at Allstate Insurance, Documentum and Coast Capital Savings all have outsourcing

success stories to tell. But none of them got where they are by following conventional playbooks. Instead, they focused on the idiosyncrasies of their companies' business needs. So did the CIOs at General Motors and Bank One, who offer up some of the tough lessons they learned before adopting opposing all-or-nothing approaches to IT outsourcing.

READ THEIR STORIES, BEGINNING ON PAGE 39.

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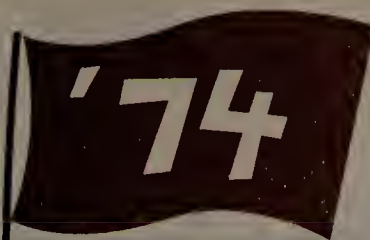
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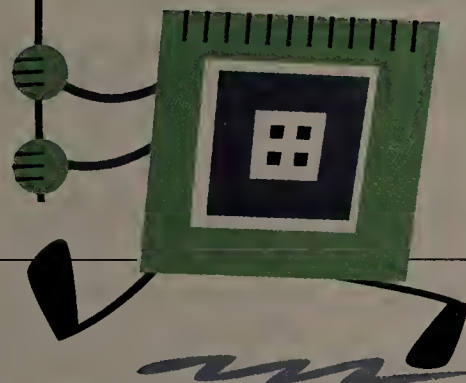
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Future Watch: It's getting harder and harder to keep Moore's Law going, but chip makers keep finding new tricks to tease more performance out of silicon. **Page 25**

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Blueprints for Network Security

SECURITY: Every company needs a plan for protecting its environment. Expert Marcia J. Wilson offers advice on how to create one. **QuickLink 36303**

Breaking the 'Concrete Ceiling'

CAREERS: Marguerete Luter and Mary Ann Wagner offer tips on how women can get ahead in IT — with ideas that apply to everyone. **QuickLink 36771**

Measure Site Activity With ASP

DEVELOPMENT: Learn how to use Microsoft's free Active Server Pages technology to monitor your Web site's active sessions, log-ins and page hits. **QuickLink 36839**

All Systems Down

STORAGE: From *CIO* magazine comes an account of one of the worst health care IT crises ever — and what CareGroup CIO John Halamka learned from it. **QuickLink 36605**

Wireless Checklist

MOBILE & WIRELESS: Chuck Gautney, CTO at Defywire Inc., lays out a number of points to consider before embarking on an in-house wireless strategy. **QuickLink 36766**

Back to School With the Mac

MACINTOSH: As Hunter College's film and media department integrates new Apple hardware and software, Yuval Kossovsky sets up a NetInfo catalog for lab users. Part 3 of an ongoing series. **QuickLink 36815**

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AT DEADLINE

SCO Sues IBM
For \$1B Over Unix

The SCO Group filed a lawsuit in a Utah state court charging IBM with breaching a Unix license agreement and stealing trade secrets. London, Utah-based SCO, which owns the source code for Unix, claimed that IBM is illegally using Unix features as part of its Linux services business. SCO is seeking damages of at least \$1 billion and threatening to revoke IBM's Unix license. An IBM spokesman said the suit "is full of bare allegations and no facts."

IBM Builds Data
Workload Tools

In other IBM news, the company announced three tools designed to let systems automatically shift computing resources to meet increases in data processing demands. The new tools initially will work with the latest versions of IBM's DB2 database and WebSphere application server software. IBM said its IT services unit also plans to use the technology as part of its offerings.

SAP Late With Apps
For Small Business

SAP AG added five industry-specific versions of business applications it has tailored for small and midsize companies. But the company confirmed that a planned U.S. rollout of general-purpose applications for those users has been delayed. SAP said it expects the mySAP Business One software, which had been due late last year, to be ready within the next few months.

Short Takes

MICROSOFT CORP. released a beta-test version of a corporate instant messaging and real-time collaboration tool, code-named Greenwich. . . **GROOVE NETWORKS INC.**, a software vendor in Beverly, Mass., said it received \$30 million in new financing but laid off 20% of its workers.

Manufacturing Firms Expect
Modest IT Budget Increases

Emphasis is on integration, supply chain and customer-facing projects

BY JAIKUMAR VIJAYAN
CHICAGO

Integration of back-end and plant-floor applications, as well as projects that build better links with suppliers and customers, is where many manufacturing companies will focus their IT spending this year.

Despite the ongoing recession, most manufacturers expect their IT spending to increase modestly this year, according to the results of a survey released by the National Association of Manufacturers (NAM) at last week's National Manufacturing Week trade show here.

Nearly 70% of the 300 mainly small and medium-size manufacturers surveyed said they expect IT budgets to grow by up to 5% over last year. Another 8% said their IT

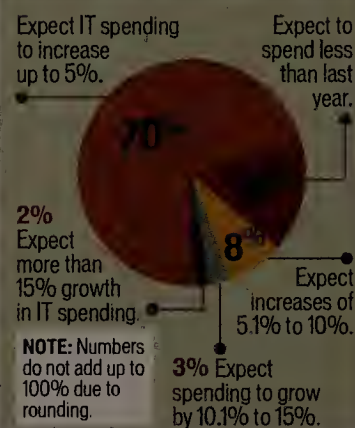
spending is expected to grow between 5% and 10%.

Most of the spending will be directed at improving customer linkages as well as plant-floor and supply chain efficiencies, said Jerry Jasinski, president of the Washington-based NAM.

Additionally, a lot of the resources that manufacturing companies acquired to deal with the Y2k rollover are rapidly becoming obsolete and due for revamps this year, Jasinski said.

On Hold

"We were really on hold last year. But this year, we are expecting at least a 5% increase in IT spending," said Tony Raimondo, CEO of Behlen Manufacturing Co., a supplier of building material in Columbus, Neb. One of the bigger

Manufacturers'
IT Spending
Plans for 2003

SOURCE: NATIONAL ASSOCIATION OF MANUFACTURERS, WASHINGTON

projects being implemented by Behlen this year is a barcode system that will allow the collection of real-time data on products being assembled on the shop floor. Such projects are "key to unlocking productivity gains," he said.

"A down economy is the perfect time to invest," said David Krauthamer, director of information systems at Ad-

vanced Fibre Communications Inc., a manufacturer of telecommunications equipment in Petaluma, Calif. "My budget is up, particularly capital. We're spending money on customer collaboration, demand planning, portfolio management and a human resources [system]," said Krauthamer. The company is also implementing a project to significantly reduce the amount of fiber it has to run for data communications.

Others, such as IMC Global, a \$2 billion Lake Forest, Ill.-based manufacturer of phosphates, expect capital expenditures to remain flat compared with last year. Even so, projects that help IMC reach out to customers and suppliers in a more efficient manner will receive priority, said Doug Pertz, CEO of the company.

Such plans come at a time when three-fourths of NAM members say U.S. manufacturing is in crisis. Rising operating costs in an environment where growth and export sales are stalled are the causes, according to Jasinski.

"These are certainly the most uncertain times for manufacturing in modern economic history," he said. ▀

Microsoft Expands Its
Office Family by Two

BY CAROL SLIWA

Microsoft Corp. today will begin distributing a beta evaluation kit of its newly named Office System product set, which includes two new additions to the family.

One new offering, called InfoPath, allows users to create and complete XML-based forms and submit them to XML-enabled systems. The other, OneNote, is a digital note-taking application that can be used on a laptop, desktop or Tablet PC.

The beta evaluation kit also includes the five products that are part of the Office 2003 suite: Word, Excel, Outlook, PowerPoint and Access.

Also shipping with the kit

are the FrontPage Web-site creation and management tool; the Office Publisher product, which aims to help users create marketing materials; Windows SharePoint Services, an engine for creating Web sites that enable informa-

NEW PRODUCTS

Microsoft
Office System

INFOPATH: Application that allows users to create and complete XML-based forms and submit them to XML-enabled systems and business processes.

ONENOTE: Digital note-taking product intended to help users organize and search their notes.

tion sharing and document collaboration; and SharePoint Portal Server 2.0, which integrates information from various systems through single sign-on and enterprise application integration capabilities.

Dan Leach, a lead product manager in Microsoft's information worker product management group, said the set of products is now referred to as the Microsoft Office System to reflect the comprehensive set of productivity applications, servers and services designed to connect people and organizations to their information and back-end systems.

This is the second beta of Office System, and Leach said it will be the final one, though there potentially could be "release candidates" before the final release of the product set this summer.

New features that weren't part of the first beta, which

was released in October, include junk-mail filtering and a business contact manager in Outlook 2003, as well as information rights management (IRM) capabilities that enable users to control access to documents they create with Office products, Leach said.

Recipients of protected documents will need client software enabled with Microsoft's IRM viewing capability in order to open them, Leach said. Other major changes in the new version of Office include support for XML and Web services, he said.

Microsoft Office System pricing has yet to be announced. Microsoft first posted the second beta of Office 2003 to its developer network site last month, only to pull the software a few hours later, claiming that the product wasn't ready and that the posting was inadvertent. ▀

States Rush to Pass Laws to Fight Spam

Congress urged to preempt states by adopting a national antispam rule

BY PATRICK THIBODEAU
WASHINGTON

BY THE END of this year, all 50 states may have antispam laws, and Congress could also act to adopt a national law. Lawmakers have never been under greater pressure to take action to fight spam. But there's little hope that legislation will bring IT managers much relief.

So far, 26 states have adopted spam laws that do things such as making forged address headers illegal. Other laws require that "ADV," short for advertisement, be included in the subject line of unsolicited commercial e-mail.

Emily Hackett, state policy director of the Internet Alliance in Washington, which represents some large Internet service providers, said states without an antispam law will soon have one. "There isn't any opposition to it," she said.

Marketing Troubled

But the state bills are troubling for the marketing industry. Some allow lawsuits against spammers that violate posted policies, which scares companies that use unsolicited e-mail to prospect for customers. There are also states eyeing a "do-not-spam" list similar to do-not-call telemarketing lists.

Congress is being pushed to act, in part to preempt state laws with a national one. The Direct Marketing Association (DMA) in New York, long an opponent of any spam regulation, is now backing a federal law to end the hodgepodge of state laws. No bills have been introduced yet, but that's expected to change.

"It's very difficult to keep track of varying state laws,"

said Louis Mastria, a DMA spokesman, who added that state laws are ineffective because a marketer doesn't necessarily know the physical address of a person being solicited. The state laws "set up legitimate e-mail marketers for a black eye," he said.

Another major proponent of action is Microsoft Corp., which last month ran ads in newspapers saying that "new,

strong laws are needed" to combat spam. The U.S. Federal Trade Commission is planning a three-day forum on spam next month, an event that's seen as a pivotal gathering of all sides in the debate.

NEW TOOLS

Corporate options for fighting spam are growing. Read more at our Web site:

QuickLink 36877
www.computerworld.com

The success of any legislation will depend on enforcement, said Michael Redman, information systems director at Nicholson Manufacturing Co. in Seattle. Washington has an antispam law, but Redman said he's seen little impact from it. "There is a substantial amount of legisla-

CRM Projects Continue to Inspire Caution, Users Say

Fearing failure, companies roll out software slowly

BY MARC L. SONGINI
CHICAGO

Despite several years of technology evolution, rollouts of customer relationship management (CRM) software still pose challenges that are causing many companies to proceed with caution.

Corporate IT managers continue to face considerable pitfalls on CRM installations, according to Scott Nelson, a Gartner Inc. analyst who spoke at the consulting firm's CRM Summit Spring 2003 conference here last week. Nelson said Gartner last year surveyed hundreds of companies that have installed CRM applications, and about 55% of the respondents characterized their rollouts as failures.

Several conference attendees acknowledged that adoption of CRM tools by end users can be very slow. Many

users are interested in CRM capabilities, but the technology "causes fear," said Shawn Kaplan, director of marketing and business development at New York-based financial data provider Reuters America Inc.

Reuters has rolled out Siebel Systems Inc.'s CRM applications internally and is

now looking to provide CRM functionality to financial advisers who use Reuters data. But if CRM tools are provided as stand-alone applications, many users aren't going to bother to launch them, Kaplan said.

With that in mind, he added, Reuters plans to use Web services integration technology developed by CRM vendor Onyx Software Corp. in Bellevue, Wash., to develop customizable application screens that present CRM capabilities

tion out there already," he said. "If it's ignored and not enforced, it doesn't do us any good."

There is much skepticism that new laws will curb spam, because finding the most egregious spammers is difficult. "People are setting up dummy corporations and fly-by-night operations," said Stephen Winkelman, an Internet attorney at Fennemore Craig PC in Phoenix.

Accompanying the push for laws are efforts to create standards for regulating e-mail.

The ePrivacy Group in Philadelphia is developing open-standards, machine-readable technology that sets minimum principles for ensuring that an Internet service provider doesn't filter a digitally signed message from a business.

Filtering sometimes screens out too much information,

Canning Spam

Any law adopted by Congress could do the following:

- Make it illegal to forge headers.
- Require that the physical location of the sender be provided in the spam e-mail.
- Require that the recipient be given the ability to opt out using an Unsubscribe link.
- Stipulate that mailing lists must be refreshed annually.
- Require the immediate removal of addresses from lists after bounce-backs.
- Ensure the ability to sue a spammer who violates a company's e-mail policy.

said Vincent Schiavone, the company's president. "We don't see a way where you can fix e-mail with the current protocol," he said. ▀

alongside its financial data. That way, financial advisers won't even know they're using the technology, Kaplan said.

Fairchild Semiconductor International Inc. is using a bottom-up strategy on its CRM project by getting feedback from end users after each rollout of a tool, said Phaedra Bond, lead strategist for sales and marketing at the South Portland, Maine-based maker of electronics products.

Even so, the company is moving slowly.

Fairchild began rolling out PeopleSoft Inc.'s sales force automation software early last year. More than 350 end users are live on the software now, but Bond said it's expected to take up to three years to complete the

project. "We're taking a sniper vs. a shotgun approach," she explained.

The company also is using a combination of techniques to encourage use of the software, Bond noted. On one hand, it's

giving sales workers some flexibility in the way they use the CRM tools after a minimum amount of required customer data is entered into the system. But use of the software is being tracked and is required for compensation. If companies treat CRM projects solely "as a technical implementation, you're going to fail," Bond warned.

Starting Small

Because of management concerns about the challenges of implementing CRM software, American Trans Air Inc. (ATA) also started small, according to Robert Ellison, director of e-business and network services at the Indianapolis-based airline.

Since July, ATA has been rolling out a set of data warehousing and CRM analytics tools developed by NCR Corp.'s Teradata division for use in such areas as managing e-mail marketing campaigns for its frequent-flier program.

But the Teradata software is still being used by only about 10 end users, Ellison said. "We have been taking baby steps," he noted. "In fact, it was probably more like a crawl." ▀

UNUSED SOFTWARE

42%
of the CRM
end-user
licenses bought
last year aren't
being used.

SOURCE: GARTNER INC. SURVEY
OF 600 COMPANIES

Bug Disclosure, Fix Process Improving

Sendmail episode shows progress made

BY JAIKUMAR VIJAYAN

SEVERAL USERS welcomed the growing willingness of vendors and security researchers to work together to identify and fix software vulnerabilities in the wake of last week's disclosure of a major hole in a widely used e-mail protocol.

But they also expressed concern over the practice by some in the security community to release vulnerability information to certain users before making it available to the public.

Atlanta-based security vendor Internet Security Systems Inc. (ISS) and Emeryville, Calif.-based Sendmail Inc. last week disclosed the existence

of a major buffer-overflow vulnerability in the sendmail mail-transfer agent, which handles more than 50% of all Internet e-mail traffic.

ISS, which first discovered the hole in early December, said it began in mid-January to

work closely with the National Infrastructure Protection Center — now part of the

U.S. Department of Homeland Security — to warn government and military agencies of the flaw.

The sendmail incident exemplified a welcome change in attitude relating to vulnerability discovery, disclosure and response, users said.

"The security community is becoming more responsible

and is making better decisions with regard to when they should disclose a vulnerability," said Mike Tindor, vice president of network operations at First USA Inc., an Internet service provider in St. Clairsville, Ohio.

There is a growing realization that "making a vulnerability public without a fix is not in the industry's best interest," said Anthony DeVoto, a Windows NT administrator at Volvo Finance North America Inc. in Montvale, N.J.

"It's kind of like a car company coming out on the 6 o'clock news and saying your car is going to blow up and they don't know how to fix it," said David Krauthamer, director of information systems at Advanced Fibre Communications Inc., a Petaluma, Calif.-

It's kind of like a car company . . . saying your car is going to blow up and you don't know how to fix it.

DAVID KRAUTHAMER, DIRECTOR OF INFORMATION SYSTEMS, ADVANCED FIBRE COMMUNICATIONS

based manufacturer of telecommunications equipment. "I think the software and security industry has matured to the point where it is unacceptable to put customers in a position of such vulnerability," he added.

Meanwhile, software vendors, which continue to come under heavy criticism for developing buggy products, are getting "a little bit better" at disclosing and responding to bug reports, said Edward York, chief technology officer at 724 Inc., a Lampoc, Calif.-based hosting provider.

Groups such as the Organi-

zation for Internet Safety are trying to propose standard guidelines for reporting and responding to vulnerability information. And several security companies have voluntarily adopted policies governing the release of vulnerability information.

"The processes surrounding vulnerability disclosure have changed significantly during the past few years for the community as a whole," said Thor Larholm, a security researcher at PivX Solutions LLC, a network security consultancy in Newport Beach, Calif. Instead of making ad hoc disclosures, PivX has a 30-day grace period for vendors to fix a problem before the public is made aware of it.

Questionable Practices

Despite such progress, other issues remain, users said.

For instance, ISS's decision to prenotify several government and military agencies of the problem is understandable given today's heightened security concerns, users said. But it highlights a practice that can encourage "information segregation and concealment," said Paul Schmehl, adjunct information security officer at The University of Texas at Dallas.

Many security organizations — including the CERT Coordination Center at Carnegie Mellon University in Pittsburgh and ISS — routinely sell advance vulnerability information to paying subscribers. Strict nondisclosure agreements govern such prenotifications, said Dan Ingevaldson, a security researcher at ISS.

But "safe practice is that only the vendor should be notified [of a flaw] so they can test it and create a patch. Only then should the information be made available to anyone else," said York. ▀

SANS Institute Lauds Microsoft Security Efforts

Patch automation, security tests cited

BY JAIKUMAR VIJAYAN

Microsoft Corp., long at the receiving end of widespread user criticism for buggy products, last week received a rare pat on the back for its security efforts from the SANS Institute.

SANS, a research organization for systems administrators and security managers in Bethesda, Md., gave Microsoft awards for demonstrating leadership in three security categories at the Fifth National Information Assurance Leadership Conference in San Diego.

The company won awards for leadership in providing automated security updates; providing security training for software developers; and providing testing software for

security vulnerabilities.

Microsoft's award in the automated updates category — which it shared with Linux supplier Red Hat Inc. — was in recognition of the automated patching service for Windows XP and Windows 2000 Service Pack 3 and above. Microsoft's security training program for software developers earned the company its second award, while its extensive automation of its software testing process snagged the third one.

The awards were based on criteria and feedback from security administrators at 15 large institutions that SANS works with on a daily basis, said Alan Paller, director of research at SANS. Many of those

who participated in the decision process were administrators working in organizations with more than 10,000 systems, Paller said.

"The idea of illuminating vendors who are doing things that are industry-leading grew out of a series of meetings with users who were complaining about vendors making security hard [to

'Microsoft' and 'security' in the same sentence is usually a joke.

MATT KESNER, CTO, FENWICK & WEST

joke," said Matt Kesner, chief technology officer at Fenwick & West LLP, a Mountain View, Calif.-based law firm. "I give them a lot of credit for making security a higher priority, but I would like to see a lot better fundamental design from them before I start handing

out any awards," Kesner said.

"I think Microsoft has made great strides in security," said Paul Schmehl, adjunct information security officer at The University of Texas at Dallas. "They are ahead of some of the Unixes and at least on par with some others, [but] they still have a long way to go," he said.

The awards demonstrate the importance of looking at factors other than just total bug count when evaluating a vendor's security practices, said Pete Lindstrom, an analyst at Spire Security LLC in Malvern, Pa.

"Counting the number of identified vulnerabilities alone is completely without merit," Lindstrom said. It's also important to gather information on factors such as a vendor's training practices, development processes and bug tracking methods, he said.

"Sometimes," Lindstrom said, "Microsoft gets a bum rap just because they are who they are." ▀

MORE ONLINE

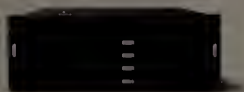
A hacker site posted sendmail exploit code less than 24 hours after public disclosure of the vulnerability:

QuickLink a2950

ISS also reported a Snort vulnerability last week:

QuickLink a2960
www.computerworld.com

If you're busy monitoring your servers, who's watching your business?



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What challenges do you face today? Decreasing budgets? The lurking possibility of downtime? It's hard enough to focus on moving your business forward when you're constantly looking over your shoulder to see if everything is up and running.

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At the end of the day, you'll have more control over your infrastructure, help avoid unplanned downtime and reduce overall maintenance costs. Not to mention freeing yourself up for more important things.

To learn how HP ProLiant servers can be a part of maximizing your company's uptime, download CMP's executive brief on high availability at www.hp.com/go/proliant85 or call 1-800-282-6672, option 5, and mention code YPH.



BRIEFS

Airlines Agree to Sell Worldspan

Worldspan LP, which runs a computerized reservations system, said its airline owners have agreed to sell it to two investment firms. American Airlines Inc., Delta Air Lines Inc. and Northwest Airlines Inc. will sell Worldspan to a new company set up by Citigroup Venture Capital Equity Partners LP in New York and Teachers' Merchant Bank in Toronto.

Microsoft Signs App Lease Services Deal

Microsoft Corp.'s IT financing unit announced a deal to offload lease contract management services for users of its business applications to another company. The leasing functions will now be handled by De Lage Landen Financial Services Inc. in Wayne, Pa. The Microsoft Capital Corp. unit said it will continue to offer financing to corporate users and to small or midsize companies.

Peregrine Lowers Revenue by \$509M

Peregrine Systems Inc. restated its financial results for the three fiscal years from April 1999 to March 2002, chopping the revenue it had reported by \$509 million. That reduced the original three-year total of \$1.34 billion by 38%. Peregrine, a San Diego-based vendor of asset management software, said about \$259 million was "reversed for nonsubstantiated transactions."

Short Takes

INTEL CORP. this week plans to launch a new foray into the notebook PC market by announcing six mobile processors under the name Pentium M. . . **SUN MICROSYSTEMS INC.** said an open-source group that's developing its JXTA peer-to-peer computing software has released an upgrade.

MARK HALL ■ ON THE MARK

Vendors Scramble to Fill Web Services Hole . . .

. . . in application management, which could pose a serious problem to companies rolling out Web services-based software. Oded Noy, CTO at Path Communications Inc. in Marina Del Rey, Calif., worries "that all the coding errors we used to catch at compile time, we're now going to catch at runtime in Web services." Hewlett-Packard's OpenView group has addressed the issue by launching its Web Services

Management Organization. According to its CTO, Al Smith, the move is both defensive and offensive. In the former category, HP sees companies such as Path potentially stealing away OpenView business. And Smith points to recent venture capital investments in Web services management start-ups such as AmberPoint Inc. in Oakland, Calif., and Flamenco Networks Inc. in Alpharetta, Ga., as proof

that this will be a hot, competitive market. (Of course, venture capitalists also showed their genius by pouring millions into Pets.com and Webvan.) In the offensive category, he claims, "we can extend the definition of what is management." Smith thinks the lack of Web services management standards and tools has dampened its adoption rate among users. The lack of management standards for Web services is finally being addressed (see story below), but the standards committee will probably take a year to complete its first draft.

Until then, developers of Web services will have to do the work themselves to manage applications for things such as authentication, performance and service-level agreements. If they think of them at all. "Management is not something developers think of. It's an afterthought when people write apps," Smith laments. ■ That's why you don't need a developer to deploy the latest version of the Path

Managing Data

Storage management gets a lift today from **Astrum Software Corp.** in Boston with the release of its active storage management product, **Astrum 1.5**. The new version includes support for Microsoft Exchange 2000, Sybase Inc. databases and localization for German and French versions of Unix and Windows. . . . **Wind River Systems Inc.** in Alameda, Calif., will announce this week that it has landed a deal to manage the data monitoring of the world's largest offshore wind farm along the coast of Denmark.

Application Manager, or P.A.M. 3.5, which ships today. According to Path's Noy, sysadmins can do it after an application is in production. He claims P.A.M. 3.5's software behavior-recognition features should catch many management problems in Web services and other applications. Among the new features in P.A.M. 3.5 are controls that can identify time-of-day, time-of-month and time-of-year fluctuations in any program. ■ Once those Web services get written and widely deployed — managed or otherwise — few

people have the slightest clue about how they will affect network performance. The engineers at Redline Networks Inc. in Campbell, Calif., have readied for delivery this week the E/X 3250 Enterprise Accelerator that adds compression, load balancing and security for Web servers and inside the firewall. CEO Roy Johnson argues that some Web services-based applications will require very large data structures or interaction among lots of different Web services, putting extra loads on Web servers and killing their performance — hence the 3250. Redline Vice President of Engineering Bill Crane boasts that the 3250's protocol scrubbing and Secure Sockets Layer certificates for road warriors improves security by protecting Web servers from buffer overflows and unauthorized users. ■ OpenVMS users cheered when HP said it had an 11-year life plan for the venerable operating system. And on March 18, they can let loose a small whoop for the general availability of Version 6.2 of SightLine OpenVMS Power Agent from Fortel Inc. in Fremont, Calif. The performance monitoring and reporting tool will be able to handle OpenVMS clusters and distinguish among operational differences during different working hours. ■ Whatever your views on the looming war with Iraq, Ivan Eland, director of the newly created Center for Peace and Liberty at The Independent Institute think tank in Oakland, suggests that IT may be at the center of an Iraqi war strategy because Saddam Hussein learned from Vietnam, Lebanon and Somalia that "the Achilles' heel of the American military juggernaut is U.S. public opinion." Cyberattacks would be a likely way to undermine wavering U.S. support for the war. He adds, "It is difficult to say how successful the Iraqis would be, but they have had more than a year of U.S. blustering to put a plan into action." So, take a little extra time this week to secure your systems. ▮

Web Services Management Standard Sought

BY MATT HAMBLIN

More than a dozen IT vendors last week said they plan to work together to develop a standard way to manage Web services technologies used in distributed applications.

The list of participating companies includes systems vendors, such as IBM, Hewlett-Packard Co. and Sun Microsystems Inc., plus developers of management tools, such as BMC Software Inc., Com-

puter Associates International Inc. and Novell Inc., according to a statement by the Organization for the Advancement of Structured Information Standards (OASIS) consortium in Billerica, Mass.

Microsoft Corp. wasn't on the list. A Microsoft official said Web services management is an important topic but added that the company has decided not to join the OASIS effort at this point.

"Simply put, management is the next major barrier to mainstream Web services adoption," said HP CEO Carly Fiorina during a speech at BEA Systems Inc.'s eWorld conference in Orlando. Fiorina also said HP has added Web services management tools to its OpenView software and created deployment and management consulting programs for Java-based Web services applications.

OASIS said the new Web

Services Distributed Management (WSDM) technical committee it's setting up will work with other standards bodies, including the World Wide Web Consortium and Distributed Management Task Force Inc. in Portland, Ore.

Jason Bloomberg, an analyst at ZapThink LLC in Waltham, Mass., said the WSDM committee might be able to produce a standard within a year. Microsoft's absence isn't that significant for now, since it could adopt the standard once it's published, he said. ▮

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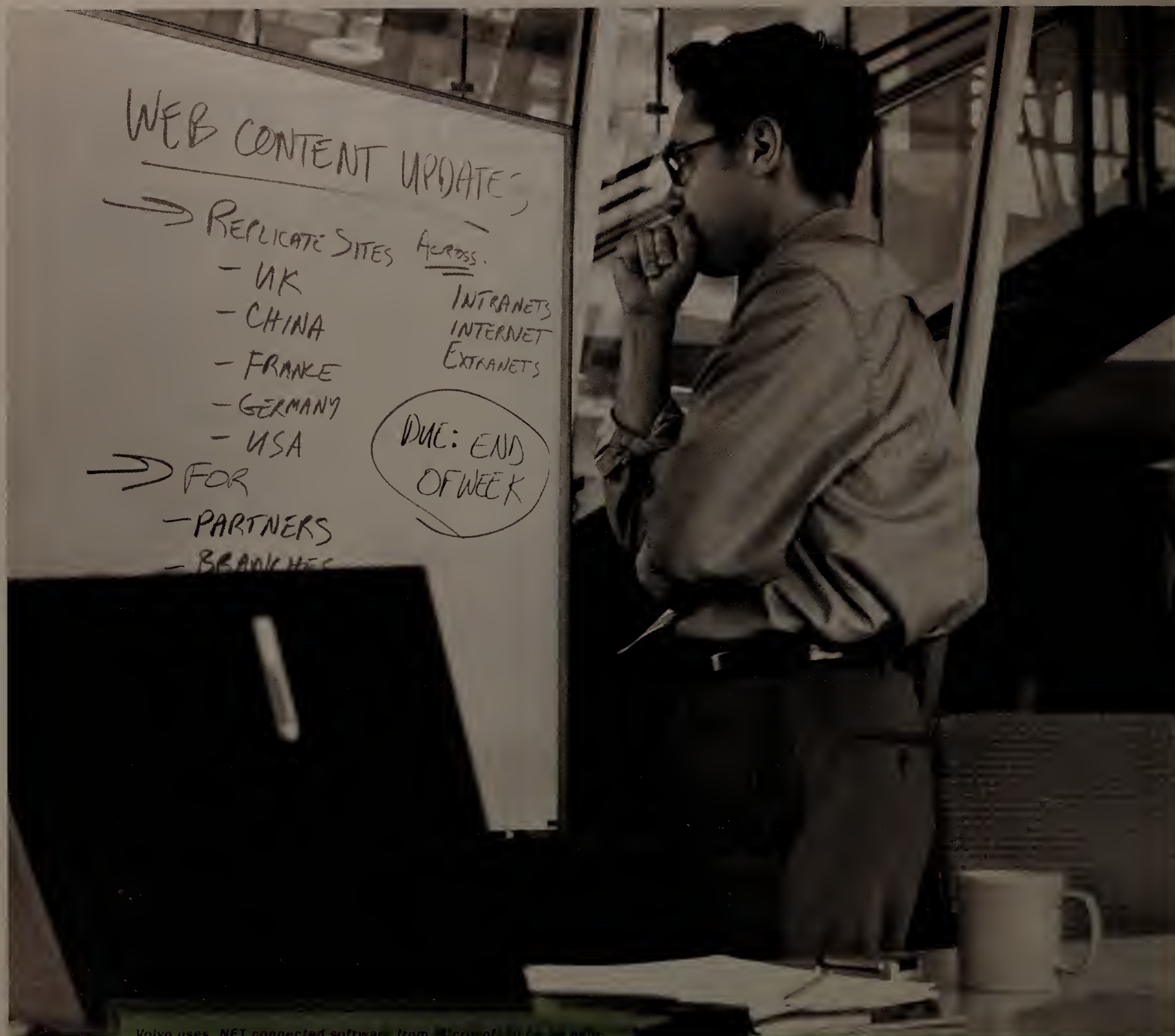
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Volvo uses .NET connected software from Microsoft to manage business. A premium global brand, Volvo Cars operated sites in dozens of countries. With each country managing its own site locally, their Web sites were inconsistent and changes were difficult to implement. With plans to localize volvocars.com for more than 40 markets, they turned to Microsoft Content Management Server, which let them centralize management of all their sites to ensure uniform branding. Yet it allowed content owners worldwide to quickly update their own sites with local information in their own language. And IT stays contentedly on top of it all.



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Microsoft

BRIEFS

EMC, Hitachi End Patent Dispute

EMC Corp. and Hitachi Ltd. agreed to settle dueling patent-infringement claims related to storage technology. Hitachi will make unspecified "balancing payments" to EMC as part of a patent cross-licensing deal, the companies said. They also agreed on a framework for exchanging application programming interfaces (API), and EMC announced a similar API deal with Veritas Software Corp. in Mountain View, Calif.

3Com Sells Off Carrier Products

3Com Corp. announced a deal to sell the key assets of its CommWorks business unit to UTStarcom Inc. in Alameda, Calif., for \$100 million in cash. CommWorks makes IP-based networking equipment for telecommunications carriers. Santa Clara, Calif.-based 3Com said it will retain a license to the technology.

Palm Says Sales Will Miss Target

Blaming weak sales of its handheld devices to corporate users, Palm Inc. warned that it will report lower-than-expected revenue for its third quarter, which ended Feb. 28. Milpitas, Calif.-based Palm said revenue will total about \$210 million, falling short of its \$230 million to \$250 million prediction. Analysts recently said the corporate market for handhelds has stagnated [QuickLink 36045].

Short Takes

IBM recalled about 56,000 PC monitors sold in 1997 and 1998 because of a faulty component that could overheat. . . . San Francisco-based MACROMEDIA INC. warned of a security flaw in Version 6 of its Flash Player software and urged users to install an updated release.

AT&T Launches VPN Service Based on SSL

Aventail's remote-access devices to be used to expand networking choices

BY MATT HAMBLIN

AT&T CORP. today plans to join forces with Aventail Corp. by announcing a deal to resell that company's new Secure Sockets Layer (SSL) remote-access devices as part of a managed virtual private network (VPN) service.

AT&T said it will charge customers a monthly fee for the SSL VPN service and put the tab on one bill along with its other network services and connection costs. Seattle-based Aventail will install and service its rack-mountable EX-1500 appliance, which is designed to eliminate the

need for end users to install remote-access client software on laptop PCs and other mobile computing devices.

The reseller agreement made sense partly because the two companies share many

global customer accounts, said John Sullivan, extranet product manager at AT&T.

Sullivan wouldn't divulge the pricing for the new VPN service, which is due to be rolled out as early as next month. Aventail set a starting price of \$20,000 on the EX-1500 when the SSL-based appliance was announced in January [QuickLink 35527].

Aventail currently offers its own SSL VPN managed ser-

vice and will continue to do so. But Sullivan said the sales forces of both companies will be able to sell AT&T's version of the managed service, with AT&T acting as the first point of contact for users.

Weighing Options

New York-based Deloitte Consulting has used Aventail's SSL VPN service for the past two years to manage remote access to corporate data and e-mail systems for 15,000 workers worldwide, said CIO Larry Quinlan. Currently, the consulting firm relies mainly on WorldCom Inc. to provide remote-access network services.

The WorldCom deal, valued in the millions of dollars annually, will be re-evaluated within the next 12 months, Quinlan said. Deloitte officials "would like more integration between

remote-access lines and the VPN," he said. But if they considered the joint AT&T/Aventail offering, "we would insist on some cost savings" compared with buying separate services, Quinlan added.

AT&T is already the market leader in providing VPN services that support the IPsec security protocol, according to Framingham, Mass.-based IDC. Unlike SSL, IPsec requires the loading of client software on end-user devices.

Sullivan said AT&T will continue to support IPsec in addition to offering the new SSL VPN service. There's "very little overlap" between the users of the two technologies, he said.

Although SSL VPNs are increasing in popularity among corporate users, the demand for IPsec VPN services should continue to show some growth in installations because that protocol offers stronger security algorithms than SSL does, said John Girard, an analyst at Gartner Inc. in Stamford, Conn. ▀

NETWORK SERVICES

Vendors Team Up to Develop Remote-Authentication Device

Security appliance controls end-user access to networks

BY MATT HAMBLIN

Funk Software Inc. and Network Engines Inc. today will release a jointly developed security appliance for authenticating remote users connecting to corporate WANs as well as users on wireless LANs.

Canton, Mass.-based Network Engines built and will distribute the hardware, which runs remote end-user authentication and authorization software developed by Cambridge, Mass.-based Funk.

The combined product is a rack-mountable device that runs under Windows 2000 Professional, according to the two companies, which announced plans to collaborate

on the appliance in January.

Size and ease of deployment were the reasons Care New England Health System in Providence, R.I., deployed an early version of the appliance last month, said Larry Pesce, a LAN/WAN specialist at the health care company.

Thus far, about two dozen end users have used the appliance for network authentication over dial-up laptop connections or to gain access to Care New England's 802.11 WLANs, Pesce said. Within weeks, the use of the device will be scaled up to handle about 1,000 medical personnel at three major facilities and other locations throughout Rhode Island, he added.

The appliance not only provides authentication services but also manages the configuration process, Pesce said. It

would have taken several days or weeks to buy server hardware and configure it, taking up valuable time for Care New England's IT staff, he noted. But the new appliance "just

worked out of the box, no headaches at all," he said.

The company bought and installed two of the appliances for about \$30,000, which was 10% less than regular server hardware would have cost, according to Pesce. The appliance also takes up very little space in Care New England's cramped data center, he said.

Funk competes with major vendors such as Cisco Systems Inc. and Microsoft Corp., which also sell authentication tools that support the Internet Engineering Task Force's Remote Authentication Dial-In User Service (RADIUS) protocol. "But Funk often gets in the door for ease of use," said John Girard, an analyst at Gartner Inc. in Stamford, Conn.

The market for RADIUS-based remote authentication products and services is expanding, Girard said, adding that appliances combining hardware with software are fashionable now, partly because they provide all-in-one capabilities to users. ▀

TECHNOLOGY DETAILS

Steel-Belted Radius Appliance

\$7,500,
available now

Version 4.0 of
Funk's Steel-Belted Radius/
Enterprise Edition software

Network Engines'
1U (1.75-in.) rack-mountable
device, running an 866-MHz
Intel Pentium III processor

Microsoft Windows 2000
Professional

Continued from page 1

BEA Tool

strict some of the code they write to BEA's runtime engine.

Craig Mapes, vice president of information systems and services at The Huntington National Bank in Columbus, Ohio, said his company will have to take a "deep dive" to see how much of the WebLogic Workshop tool relies on nonstandard Java.

"Is it the silver bullet, or is it going to lock us into something less open?" he said. "We don't want to be locked into anything proprietary. We've been down that path before."

For many users, one of the most appealing aspects of working in Java has been its promise to run on any operating system or application server, so long as the code con-

forms to standards vetted through the Java Community Process (JCP) established by the language's creator, Sun Microsystems Inc.

"Portability is the whole thing about Java to me. If we want vendor lock-in, we can go with Microsoft," said Marc Cox, a systems analyst at New York-based Teachers Insurance and Annuity Association - College Retirement Equities Fund.

The Need for Ease

But as a result of Java's growing maturity and acceptance, IT shops with less skilled developers are taking up the technology, and that makes the need for better tools more critical. Also, the knock that Java is too complicated has become a pressing concern for vendors that now must compete against Microsoft's

year-old .Net technology.

"We, like our primary competitors, all have to introduce innovations to make the products easier to use," said Scott Dietzen, chief technology officer at San Jose-based BEA.

"And some of those are in our classes." Dietzen said BEA's key APIs — such as Web Services Metadata and a Java Rule Engine — are already moving through the Java's standards body. Others, such as Java Page Flow and Process Definition for Java, are pending. And some minor proprietary pieces may never make it to the JCP, he added.

"We take the most critical interfaces and get them into the standards process because that's where the investment protection is most needed," said Dietzen. "Putting 100% of our APIs into the Java standards process is too expensive. It would cost a huge amount of money, and the net return to customers is very small."

So BEA is instead striving to give customers "90-plus percent" investment protection, Dietzen said. Customers may have to do "a little bit of rework" to port code to another Java container, but that's "dramatically better" than any option they ever had, he said.

However, Mark Driver, an analyst at Gartner Inc., claimed that there is "so much proprietary plumbing inside of Workshop that there's no practical way to port the code to another vendor's products."

Driver said Gartner is advising BEA customers to limit the use of Workshop to tactical projects where a return on investment can be realized within two years, since the tool will likely change.

He didn't fault BEA's approach, and he praised the company's efforts to standardize its technology. "Any vendor who wants to innovate is going to have to become more proprietary, at least for a period of time until the standards catch up," Driver said.

But as several users pointed

BEA Executives Provide Glimpse Into Company's Direction

BEA Systems will focus on security, application-level management and process-oriented programming in future product releases, company executives said last week.

Alfred Chuang, CEO of the San Jose-based software maker, told *Computerworld* that his company is building a security server. He said it will be sold as a separate product that can be hooked to non-BEA products.

"If you're not even a WebLogic shop — maybe you're a mainframe shop — you'll find it useful," Chuang pledged. He said he's not sure when the product will be ready for general release.

BEA in February acquired CrossLogix Inc., a privately held Redwood Shores, Calif.-based

maker of enterprise authorization products. The CrossLogix technology will be part of BEA's ongoing security work, according to Rick Jackson, vice president of enterprise product marketing at BEA.

BEA will release an enhanced security framework that spans the products in its upcoming WebLogic Platform 8.1 — which include the application, portal and integration servers. The application server is due this spring, with the full platform to follow this summer.

— Carol Sliwa

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 **QuickLink 36892**
www.computerworld.com

Nonstandard Java Technologies in BEA's WebLogic Workshop Tool

TECHNOLOGY	DESCRIPTION	STATUS
Java Page Flow	New file format that contains the business logic, state and navigation flow of a Web application; built upon a Struts-based Web application programming model	To be submitted to Java Community Process.
Web Services Metadata for the Java Platform	Defines an annotated Java format that uses Java Language Metadata (JSR 175) to enable easy definition of Java Web services in a J2EE container.	JSR 181. Work in progress. Expert group formed last April.
Process Definition for Java	Defines an annotated Java syntax and APIs for programming business processes in Java.	JSR 207. Vote on acceptance of JSR due March 17.
Metadata Facility for the Java Programming Language	Allows classes, interfaces, fields and methods to be marked as having particular attributes.	JSR 175. Work in progress. Expert group formed last April.
Content Repository for Java	Specifies a standard API to access content repositories in Java 2 independently of implementation.	JSR 170. Expert group formed last month.
Portlet Specification	Defines a set of APIs for portal computing addressing the areas of aggregation, personalization, presentation and security.	JSR 168. Expert group formed last month.
Java Rule Engine API	Defines a Java runtime API for rule engines.	JSR 94. Public review period recently closed.

NOTE: A Java Specification Request (JSR) is the actual description of a proposed and final specification for the Java platform under the Java Community Process created by Sun Microsystems Inc. to evolve the technology.

SOURCES: BEA, JAVA COMMUNITY PROCESS

out, there's no guarantee that all of the technology will become a standard. And even if it does, there's no guarantee that it will be adopted by other vendors, such as IBM.

Robert Moffett, systems architect lead at United Parcel Service Inc.'s airlines division in Louisville, Ky., is evaluating BEA's WebLogic application server, integration product and workflow capabilities

against similar products from BEA rival IBM.

Moffett said he likes the concept of the Workshop tool, which works

across all BEA products. But he said he has concerns about being restricted to running code written with Workshop on only BEA products, especially since UPS has standardized on IBM's WebSphere portal software.

"Everyone's going to have to take a hard look at how [WebLogic Workshop] aligns with your architectural goals. It's a very conscious decision you need to understand that you're taking," said a Web development manager for a medical distributor who asked not to

be identified. He added that he still finds the tool "compelling."

James Kline, a project manager at The ServiceMaster Co. in Downers Grove, Ill., said he expects that most of his company's new development will be on WebLogic, so portability isn't a huge concern.

David Gallaher, director of IT development for Jefferson County, Colo., said he needs the tool, which ships this summer, "to salvage all my old Cobol programmers and get them doing something productive in J2EE [Java 2 Enterprise Edition] without having to go over that really steep learning curve."

Gallaher said that if porting is ever needed, he can grab the code created with the tool, copy it and put it anywhere he wants. "It's still Java behind the scenes," he said. Gallaher added that he doesn't expect to make calls to many proprietary class libraries.

"Would I prefer that the tool was absolutely open? Absolutely. Can I live with it this way? Yeah," Gallaher said. "I mean, what's my alternative? Do it in Microsoft, where they control everything?"

ONE ON ONE

Computerworld interviews
BEA CEO Alfred Chuang:

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Real-Time Data

system that would provide more rapid access to data, but it has yet to make any technology choices.

Top-level corporate executives increasingly want to keep a close watch on key business-performance indicators so they can take fast action when necessary, said Sateesh Lele, chairman of Global Data Systems USA, a San Jose-based IT services firm. "In order to do that, they need to have summarized, synthesized, real-time information," Lele said.

For example, if there's a drought in the Northeast, the use of real-time information to gauge demand for umbrellas could help executives at an umbrella maker do

"dynamic pricing" in an attempt to boost sales, said Steve Andriole, a consultant at Cutter Consortium in Arlington, Mass., and a professor of IT management at Villanova University in Pennsylvania.

There are combinations of technologies that can help put business performance information in the hands of senior management more quickly, including middleware, business process integration tools, Web services applications and data mining tools. But they go only so far in speeding up the delivery of data, according to analysts. For instance, information stored in decision-support data marts is often up to a month old, Lele said.

In addition, many companies have rolled out enterprise resource planning systems that are tied to legacy applications populated with outdated information. "You still haven't solved your real-time problem," said Andriole, a former chief technology officer at Cigna Corp. in Philadelphia.

Some companies have made big strides toward achieving real-time data availability. Atlanta-based Delta Air Lines Inc., which has invested \$1.5 billion in its IT infrastructure since 1998, has integrated its systems so tightly that there's just a one-second latency in

exchanging data between some of its business units, said CIO Curtis Robb during a session at the Premier 100 conference.

Still, some of the challenges facing IT man-

agers who are trying to install real-time data access capabilities extend beyond technology to issues such as the quality and timeliness of information. For instance, Chris McMahan, CIO at Wireless Retail Inc., a Scottsdale, Ariz.-based provider of wireless products and services to retailers, said a salesman might report that he sold 10 wireless devices in a week when, in fact, he sold eight and has two orders in the pipeline.

"Every company I know of has to deal with the fudge factor," Andriole said. "Some cynics say that real-time reporting is terrible because it gives you the ability to make wrong decisions faster." ▀

“Every company I know of has to deal with the fudge factor.”

STEVE ANDRIOLE, CONSULTANT, CUTTER CONSORTIUM

How to Manage Real-Time Data

■ **Don't try to transform all operational data into real-time information.** Instead, focus on areas where timeliness matters most, such as sales and inventory data.

■ **Be careful that you're not just delivering old or outdated information** more efficiently to your CEO and other business executives.

■ **Don't rely too heavily on technologies such as EAI and Web services as agents of change.** Cultural and business process issues are just as important, if not more so.

■ **Make sure that there's a business case for real-time reporting initiatives** and that business leaders take ownership of them.

Inventory Costing Systems Pose Real-Time Data Challenges

Another problem hampering IT managers who are trying to make data available to business executives on a real-time basis is their companies' reliance on legacy accounting systems that are centered on so-called standard costing metrics.

Standard costing is an accounting technique that's widely used by manufacturers to predict the cost of product inventories for a full year based on the prices that are in place at the end of the previous year.

But applications that support the technique have limits, said Ralph Rio, an analyst at ARC Advisory Group Inc. in Dedham, Mass. For example, disk drives sold by a vendor may fetch \$500 each at the end of one year – a price that will be built into the standard costing models in its accounting system. But if market conditions change and prices have to be cut sharply, the new information typically won't be reflected in the costing models.

That can be "a major problem"

when it comes to using real-time information to react to changing market conditions, Rio said. To combat such problems, an emerging class of applications is able to accommodate real-time changes in costing data, he said.

Nevertheless, companies will likely have to also retain their legacy accounting systems in order to meet the U.S. Securities and Exchange Commission's financial reporting requirements, Rio added.

– Thomas Hoffman

Utility Turns to EAI Tools To Revamp Supply Chain

Integration software to support real-time data exchanges

BY THOMAS HOFFMAN

Southern Co., a \$10.55 billion utility and energy services firm in Atlanta, is in the early stages of a multiyear enterprise application integration (EAI) effort aimed at bolstering revenue and lowering costs throughout its extensive supply chain operations.

As part of a project that began last year and is due to continue through 2006, Southern is pushing to add real-time energy trading capabilities and optimize all of its key supply chain functions, including warehousing and inventory and freight management.

To support the effort, Southern late last year installed business process integration software developed by Sunnyvale, Calif.-based Vitria Technology Inc. The details of the rollout will be announced this week. Southern plans to use Vitria's BusinessWare tools to provide real-time exchanges of purchasing data between its systems and those of its business partners through an energy trading network operated by Pantellos Group LP in The

Woodlands, Texas.

"We're trying to manage the sourcing process from the raw materials phase all the way to the disposal of any assets that we've acquired," said Jacki Lowe, vice president of supply chain management at Southern, which is also using rival message-queuing middleware tools from IBM and Microsoft Corp. as part of the project.

Lowe said the EAI initiative is aimed at providing Southern's business executives with greater visibility into all of its supply chain operations. The project should also simplify some IT functions, she added.

For instance, Southern's ac-

counting materials and procurement system links to 75 different work-order and accounting applications throughout the company. In turn, many of those systems are tied to applications at Southern's suppliers and other business partners.

But anytime a change is made to one work-order system, follow-on changes have to be made to the accounting systems to which it's connected, Lowe said. The use of BusinessWare should help minimize the changes "and reduce some of our support costs for those systems," she said.

Lowe declined to disclose how much Southern is investing in the EAI project, nor would she estimate the size of the payback and efficiency improvements that the company expects to gain.

Zarko Sumic, a Bellevue, Wash.-based analyst at Meta Group Inc., said a growing number of energy companies with extensive transmission and distribution businesses are beginning to understand the potential for using EAI technology to help make their operations more efficient.

Once BusinessWare is fully operational, Southern next quarter plans to begin developing interfaces to systems at some of its energy trading partners, Lowe said. The company expects to start processing transactions through the interfaces in June, she added. ▀

AT A GLANCE

Southern's Supply Chain Push

COMPANY FACTS: Sells electricity and natural gas to 4 million customers in the Southeast; had revenue of \$10.55B last year

BUSINESS CHALLENGE: Improving its supply chain by lowering costs and providing better reliability to customers

IT STRATEGY: Embarked on a multiyear EAI effort that includes the use of Vitria's business process integration tools and middleware from IBM and Microsoft

Antitrust Suit Widens Cartridge Battle

BY PATRICK THIBODEAU

A North Carolina company that remanufactures toner cartridges has filed an antitrust lawsuit against printer maker Lexmark International Inc., broadening a legal fight that could affect the availability of low-cost cartridges.

Sanford, N.C.-based Static Control Components Inc. (SCC) claims that Lexmark is trying to monopolize the cartridge market. SCC's allegation comes after Lexington, Ky.-based Lexmark filed a suit in December charging that the remanufacturer illegally copied some of the chips used to mate cartridges to Lexmark's printers [QuickLink 36030].

Lexmark won the first round in a Feb. 28 ruling by a U.S. District Court judge in Kentucky. The judge issued a preliminary injunction that bars SCC from making the chips used in replacement cartridges for two of Lexmark's laser printers. SCC filed its antitrust claim that same day in Greensboro, N.C.

Congress Takes Notice

The legal battle is getting congressional attention because of Lexmark's attempt to protect its toner cartridges by citing the Digital Millennium Copyright Act (DMCA), a 1998 law aimed at stopping music and movie piracy.

In an interview, Rep. Rick Boucher (D-Va.) said the case illustrates the law's shortcomings and charged Lexmark with using the DMCA to "thwart competition" — a charge that Lexmark denied.

One of Lexmark's key complaints is that SCC, in reproducing the printer chips, violated the DMCA by circumventing "secret handshake" authentication software built into the devices by Lexmark.

But DMCA critics contend that such authentication protections could be applied to a range of software and hardware products. In January, Boucher reintroduced legislation that aims to change the

DMCA's circumvention restrictions, and last week he sent a letter to House members citing his concerns about

Lexmark's use of the DMCA.

In its suit, SCC claims that Lexmark's alleged anticompetitive practices are squeezing

companies that remanufacture toner cartridges out of the market. To buttress that claim, SCC argued that about 35% of the toner cartridges sold for use with Hewlett-Packard Co.'s printers are remanufac-

tured, compared with about 14% for Lexmark's.

Roger Rydell, a Lexmark spokesman, said the company "provides more choice in cartridges for laser printers" than any of its rivals. ▀

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Dell's Storage Chief Pushes for Fast Growth

BY DON TENNANT
SCOTTSDALE, ARIZ.

As the executive in charge of Dell Computer Corp.'s storage unit, Russ Holt

manages what he calls an "emerging" business that already produces revenue of \$1 billion per year. At a recent conference held here by Cambridge, Mass.-

based Forrester Research Inc., Holt, vice president and general manager of Dell's Enterprise Systems Group, spoke with Computerworld about where Dell's storage foray is heading.

Given that many companies are undergoing server consolidation by means of augmenting their storage resources, do you see Dell's storage group taking any business away from its server group? There is a trend toward consolidation, but we don't see it necessarily as fewer servers. There's no lack of necessity still for the computing capability and the applications, but from the CIO's perspective, it was becoming very difficult for him to manage that. What we've seen is a trend toward rack-dense or rack-optimized servers; the form factors have changed. And what we've typically found is that customers are adding new projects and applications for productivity, so it tends to offset the consolidation that's happening.

But you do see server consolidation as a driver for your storage business? Absolutely. It's an easier-to-manage, more effective use of disk space. You can have one administrator supporting 6TB as opposed to just being able to support 1TB before.

What percentage of Dell's business is storage at this point? We're over \$1 billion in annual revenue for our external storage. Dell's total revenue is over \$30 billion, so storage is a small portion right now. But we look at it in the whole context of our enterprise business, which now accounts for about 20% of our total revenue.

What will your storage business look like in five years? From the standpoint of product capabilities, it will just be to continue to monitor and adjust with the trends. We have a very complete portfolio of storage products right now.

What is your monitoring of the iSCSI trend telling you? The standard for iSCSI was just ratified a month ago [QuickLink 36334]. These emerging technologies tend to take off a lot slower than most analysts would like them to. I don't expect that iSCSI is going to replace Fibre Channel. However, there are some clear uses where iSCSI will provide some benefits. The first environment

is in wide-area connectivity for SANs [storage-area networks]. Another use is providing [block-level data] support on network-attached storage [NAS]. Currently, NAS boxes are only file-based access.

How about the InfiniBand I/O technology?

It's one of those products in the very early stages of standardization, so it's not something that's going to happen overnight. As the modular blade-type servers start to standardize a bit more, we think InfiniBand will play a key role in the system-level communication between servers. We don't see InfiniBand taking over storage interconnects like Fibre Channel; we don't see it taking over the network like IP. But it

will be an important transport medium between modular servers.

So would your strategy be to let IBM and Sun test the InfiniBand waters or to jump in first? We're working on InfiniBand-related products ourselves; we won't necessarily wait for IBM or Sun to pave the way. But we're also very keen on delivering rele-

vant technology. InfiniBand is relevant, but the timing is what we're working through right now.

How do you see your relationship for reselling EMC's Clariion midrange arrays evolving over the next few years? We entered into the relationship in October of 2001; the tenets that led us to the relationship hold and have been validated. [Dell's] view [is] that all technology is progressing along a standardization curve. The area where there's still a lot of complexity and a lack of standards is in the Fibre Channel SAN area. From a Dell perspective, that's not an area where we want to invest a lot of our own resources, because there aren't standards there. So we chose to partner with EMC.

What's going to be new from Dell storage-wise over the next year? You'll see Fibre Channel-connected ATA [Advanced Technology Attachment] drives coming from Dell and EMC in the first half of this year. That will allow customers to continue to put their business applications and mission-critical data on core Fibre Channel systems but have the capability for snapshots or mirroring [on] less expensive disks. That will progress to Serial ATA starting to show up in the latter part of the year and serial-attached SCSI devices about a year after that. ▀



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PATRICIA KEEFE

Iraqnophobia

WAR. IS THERE A MORE sobering word? A more terrifying prospect? Today, the threat hangs heavy in the air, clouding conversation, darkening

our doorways and liable to fall upon all our heads at any moment.

As the Bush administration marches resolutely into the stiff wind of global disapproval, we're all steeling ourselves for the impact — of what we don't yet know.

For reservists, it could mean a call to duty. As a neighbor once said to me, "It may look like we're just fooling around out here one weekend a month, but we're not. This is serious stuff." Indeed. He got called up almost a year ago.

Although most of us won't be slinging an M-16 over our shoulders, the threat of war changes everything. Especially for IT. Sure, we've already spent the past two years operating under some very trying circumstances, so you might wonder how much tougher it can get.

That depends mainly on two things: how prepared you are to secure and defend your company's digital assets and infrastructure, and whether, and how long, we go to war.

Duct tape and plastic sheeting aside, there are real steps you can take. The key for IT leaders, notes French Caldwell, a research director at Gartner, is that in an era when events in the physical world are reflected online, systems connected to the Internet are particularly vulnerable. Take Delta Air Lines' estimate of 500 attempts daily to break into its systems or the recent theft of an estimated 8 million credit card numbers from Data Processors International. Remember the speed and reach of the Slammer worm.

The issue seems less the much-hyped cyberterrorism, and more the need to secure critical enterprise infrastructure and data from hactivists,



PATRICIA KEEFE is a Computerworld editor at large. You can contact her at patricia.keefe@computerworld.com.

new viral strains and physical assault.

And yet Gartner last week said that one-third of the 250 businesses it surveyed face the loss of critical data or operating capability in the wake of a "severe calamity." Another research firm, Meta Group, estimates that only 20% of the Global 2,000 have truly effective business continuity plans —

capable enough to enable their organizations to survive a disaster without lasting adverse effects.

Even without war, you'd better

- Develop a business continuity plan, and appoint a cyberincident response team.

- Nail down a serious security plan. Don't just put the manual in a corner.

- Create an "air gap" between critical infrastructure control systems and mission-critical applications and the Internet.

- Develop an e-mail policy. Last week's revelation about the sendmail

vulnerability was a timely wake-up call (see Frankly Speaking, page 54).

If we go to war, you can expect

- A call from the CEO asking to review your disaster and business continuity plans.

- Fewer in-person due diligence checks from U.S. partners at overseas outsourcing firms, which will see a possible slowing in their sales cycles.

- Rising anti-American sentiment driving the need to protect overseas offices, personnel and systems. Travel screeching to a near halt. (Videoconferencing and the telecoms will be the big beneficiaries here.)

If the war drags on, IT will be fighting a battle on two fronts: economic and security:

- A lengthy engagement is expected to bring spending and the economy to a virtual standstill while pushing oil prices skyward, negatively affecting corporate budgets.

- As the threat of physical and cyberterrorist attacks spirals, some companies may want to look into biometric physical security devices.

You never know when a war-related incident could give new meaning to the term *agile corporation*. As former cybersecurity czar Richard Clarke often reminded us, the nation is counting on the private sector to combat threats to our critical infrastructure. Don't be caught unaware. ▀

PIMM FOX

Worse Than Death and Taxes?

THREE THINGS IN LIFE are certain: Death, taxes and lost data.

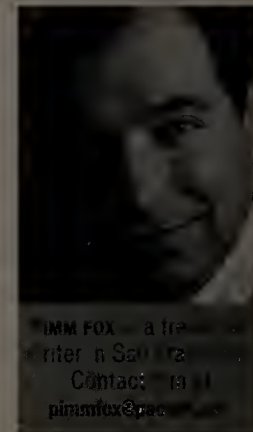
If you're an IT executive, this third bane of your existence probably isn't going to get much worse. But if you're in finance, new regulations governing the retention and management of internal and external communications might make it seem worse than death or taxes.

The Securities and Exchange Commission's new Rule 17a-4 goes into effect in May. (There are also revised rules from the New York Stock Exchange.) It specifies communications compliance that covers e-mail, attachments, memos and instant messaging as well as routine phone conversations.

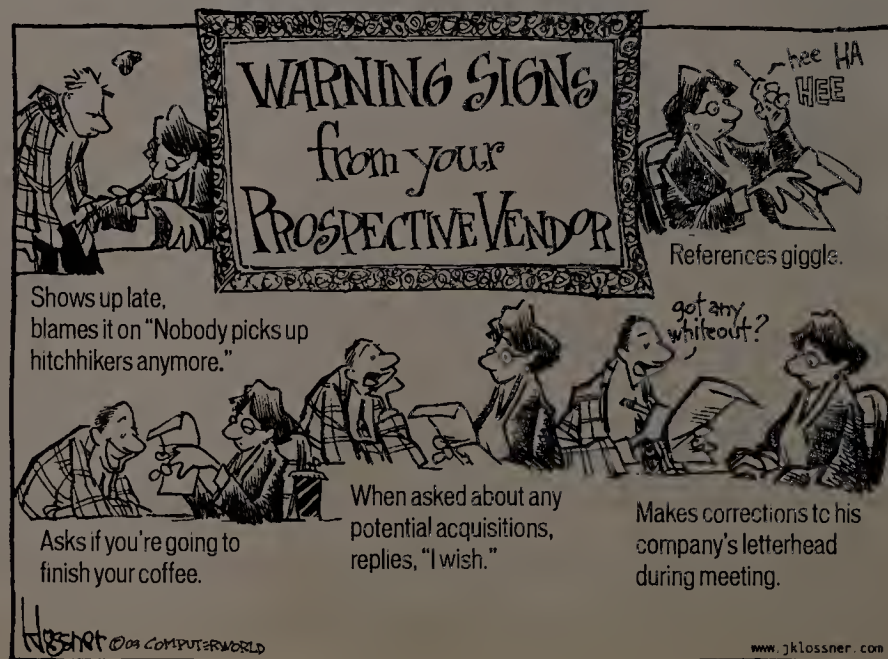
The quandary for IT departments is how to compile the arsenal of software and hardware tools necessary to capture, store and easily retrieve the oceans of data sloshing around a financial services firm. For example, Merrill Lynch had more than 57,000 employees in 36 countries at the beginning of 2002. That's a lot of people communicating in a variety of ways to many other individuals.

This communications tracking and management costs big bucks, according to Charles Brett, a senior program director at Meta Group. He estimates that a firm with 5,000 brokers generates about 20GB to 50GB of e-mail per day to be stored on nonerasable optical tapes. "Each WORM [write-once, read-many] tape holds about 9GB," Brett says. "So you might be looking at \$150 to \$500 a day, every day, and that's just the cost of the disks."

Obviously, there's storage, duplication and management as well. And you'll need search tools to check for keywords ("Get rich quick" comes to mind). Other costs must be considered as well. Brett estimates that companies can spend upward of \$1 million just to get started.



PIMM FOX is a writer in San Francisco. Contact him at pimmfox@pacbell.net.



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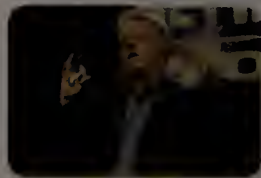


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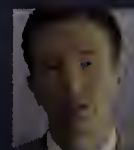
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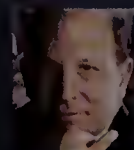
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Agenda Snapshot*

For details, updates, and to register visit www.snwusa.com/expo

*subject to change

Monday, April 14

(Pre-Conference Activity and Tutorial Sessions)

- 9:30am-11:00am Primer
- 12:00pm-5:00pm Golf Outing
- 1:00pm-2:00pm SNIA Tutorial Sessions - choose from five different sessions
- 2:00pm-2:10pm Break
- 2:10pm-3:10pm SNIA Tutorial Sessions - choose from five different sessions
- 3:10pm-3:20pm Break
- 3:20pm-4:20pm SNIA Tutorial Sessions - choose from five different sessions
- 4:20pm-4:30pm Break
- 4:30pm-5:30pm SNIA Tutorial Sessions - choose from five different sessions
- 7:00pm-9:00pm Pre-Conference Networking Reception

Tuesday, April 15

(General Conference - Day One)

- 7:15am-8:15am Continental Breakfast
- 8:30am-9:15am Opening Keynote: Regis McKenna
- 9:15am-12:00pm General Sessions
- 12:15pm-1:30pm Networking Luncheon
- 1:45pm-4:00pm General Sessions
- 4:00pm-5:30pm Technical, Technical/Business and Business Tracks
- 5:30pm-8:30pm Expo, Buffet Dinner, Interoperability and Solutions Demo

Wednesday, April 16

(General Conference - Day Two)

- 7:15am-8:15am Continental Breakfast
- 8:30am-9:05am Opening Keynote: David Chamberlain
- 9:15am-12:00pm General Sessions

12:00pm-1:30pm Expo, Buffet Luncheon

12:00pm-7:15pm Interoperability and Solutions Demo Open

1:45pm-3:30pm General Sessions

3:50pm-4:00pm Break

4:00pm-5:00pm Technical, Technical/Business and Business Tracks

5:15pm-7:15pm Expo Open

7:30pm-9:00pm Gala Evening

Thursday, April 17

(Tutorial and Workshop Sessions)

- 7:30am-8:30am Continental Breakfast
- 8:30am-11:45am Technical, Technical/Business and Business Tracks
- 11:45am Conference Concludes

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Options for IT End-Users*

General Conference Package (Apr. 15, 16):
(Includes Expo, Meals and Receptions)

Pre-Registration (through April 11th)

\$1,095

On-Site Registration (after April 11th)

\$1,245

Total 4-day Package (Apr. 14, 15, 16, 17):

\$1,490

\$1,690

(Includes General Conference Package; Technical and Business Tracks; SNIA-produced Tutorials; SNIA-Certification "Test-Ready" Courses; Expo, Meals and Receptions)

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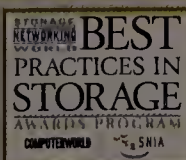
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* See IT End-Users description on the Registration Application on the reverse.

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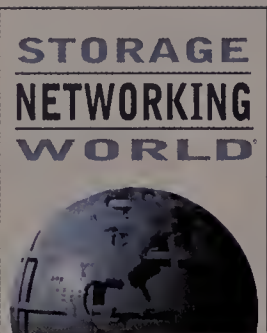
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Total 4-day Package (Apr. 14, 15, 16, 17): (Includes General Conference Package, Technical and Business Tracks; SNIA-produced Tutorials; SNIA-Certification "Test-Ready" Courses; Expo, Meals and Receptions)	<input type="checkbox"/> \$1,490	<input type="checkbox"/> \$1,690

Options for IT Vendors**

Total 4-day Package (Apr. 14, 15, 16, 17): (Available to Sponsoring Vendors and their Resellers/Integrators; Industry Consultants; and Storage Solutions Implementors)	<input type="checkbox"/> \$1,490	<input type="checkbox"/> \$1,690
Non-Sponsoring/Exhibiting Vendor Package:	<input type="checkbox"/> \$5,000	<input type="checkbox"/> \$5,000

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Fax Number: _____ E-Mail Address: _____

Badge Name: _____ ☐ Special Services Required? (Please attach written description)

Would you like to receive information about playing in the golf outing on Monday, April 14th (PM)? ☐ Yes ☐ No

Please indicate your preferred conference shirt size: ☐ S ☐ M ☐ L ☐ XL ☐ XXL ☐ XXXL

Attendee Profile: (This section must be completed in order to process your application)

SECTION A - FOR IT END-USERS ONLY

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- ☐ CEO/COO/Chairman/President
- ☐ CIO/CTO
- ☐ VP/GM/Director
- ☐ IS/IT Director/Manager
- ☐ Other IS/IT Department Manager/Supervisor
- ☐ Other Corporate/Business Manager
- ☐ Corporate/Business Staff
- ☐ Consultant (Internal) or Other

Select item below that most closely matches your involvement in IT decisions:

- ☐ Specify features/Technical requirements
- ☐ Evaluate/Recommend Products, Brands, Vendors
- ☐ Create strategy/Determine the need to purchase

- ☐ Set budget for expenditure
- ☐ Authorize/Approve purchase
- ☐ None of the above

Employees in your entire Company:

- ☐ 10,000+
- ☐ 5,000 - 9,999
- ☐ 1,000 - 4,999
- ☐ 500 - 999
- ☐ 100 - 499
- ☐ Less than 100

Estimated annual revenue of your entire company:

- ☐ \$10 Billion+
- ☐ \$5 Billion - \$9.9 Billion
- ☐ \$1 Billion - \$4.9 Billion
- ☐ \$500 Million - \$999 Million
- ☐ \$100 Million - \$499 Million
- ☐ \$50 Million - \$99 Million
- ☐ Less than \$50 Million

Annual company IT budget (All IT products and services):

- ☐ \$100 Million+
- ☐ \$50 Million - \$99.9 Million
- ☐ \$20 Million - \$49.9 Million
- ☐ \$10 Million - \$19.9 Million
- ☐ \$5 Million - \$9.9 Million
- ☐ \$1 Million - \$4.9 Million
- ☐ \$500,000 - \$999,999
- ☐ Less than \$500,000

Annual company IT budget (Storage products and services):

- ☐ \$100 Million+
- ☐ \$50 Million - \$99.9 Million
- ☐ \$20 Million - \$49.9 Million
- ☐ \$10 Million - \$19.9 Million
- ☐ \$5 Million - \$9.9 Million
- ☐ \$1 Million - \$4.9 Million
- ☐ \$500,000 - \$999,999
- ☐ Less than \$500,000

Your personal IT spending authority (All IT products and services):

- ☐ \$100 Million+
- ☐ \$50 Million - \$99.9 Million
- ☐ \$20 Million - \$49.9 Million
- ☐ \$10 Million - \$19.9 Million
- ☐ \$5 Million - \$9.9 Million
- ☐ \$1 Million - \$4.9 Million
- ☐ \$500,000 - \$999,999
- ☐ Less than \$500,000

Your personal IT spending authority (Storage products and services):

- ☐ \$100 Million+
- ☐ \$50 Million - \$99.9 Million
- ☐ \$20 Million - \$49.9 Million
- ☐ \$10 Million - \$19.9 Million
- ☐ \$5 Million - \$9.9 Million
- ☐ \$1 Million - \$4.9 Million
- ☐ \$500,000 - \$999,999
- ☐ Less than \$500,000

SECTION B - FOR IT VENDORS ONLY

Your Business/Industry:

- ☐ VAR/VAD/ASP/System Integrator
- ☐ Industry Consultant/Storage Solution Integrator
- ☐ Manufacturing (IT)
- ☐ Computer Retailer/Dealer/Wholesaler
- ☐ Software Development (Storage)
- ☐ Other Computer Related (Non-Storage)

Your Job Title/Function:

- ☐ CEO/COO/Chairman/President
- ☐ CFO/Controller/Treasurer
- ☐ VP/GM/Director
- ☐ Sales/Marketing/Product Staff
- ☐ CIO/CTO/Other IS/IT Manager
- ☐ Engineering Staff
- ☐ Press

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- In the event of cancellation, the registrant has three options:
- 1) He or she may substitute another attendee for this conference.
 - 2) He or she may transfer this registration to the Fall 2003 Storage Networking World* conference, if written notice is received by March 31, 2003.
 - 3) The registration fee will be refunded, less \$250 service charge, if written notice is received by March 31, 2003.

Computerworld reserves the right to limit and/or refuse any registration for any reason.

Schedule of Conference Events (subject to change)

Monday, April 14, 2003

- Pre-Conference Golf Outing
- Pre-Conference Networking Reception
- Tutorial Sessions

Tuesday, April 15, 2003

- General Conference
- Interoperability and Solutions Demo
- Exposition

Wednesday, April 16, 2003

- General Conference
- Interoperability and Solutions Demo
- Exposition
- Gala Evening

Thursday, April 17, 2003

- Tutorial Sessions

Unfortunately, few IT departments are being given meaningful guidance by compliance and legal departments about where and how to invest the money. So, many are relying on vendors to know what technology is or isn't required.

"There are some pretty immature solutions out there," says Brett.

It's possible to capture everything inbound and outbound, but capturing the internal stuff gets complicated. As a result, some companies are looking at this as a chance to re-evaluate e-mail at the enterprise level and initiate operational management of e-mail — for example, making users categorize e-mail before it's distributed and archived.

Brett says the most important questions for potential vendors are about scalability and ownership.

Can they demonstrate real scalable solutions, and what is their specific expertise? Without these answers, your communications aren't being given the attention the law demands. ▀

THORNTON MAY

Save the Suits From Themselves

RUDY GIULIANI argued that the best way to fight crime is to fight the disorder that precedes it — those quality-of-life crimes such as spraying graffiti, panhandling, breaking windows, littering and letting buildings crumble and decay. I think you can make a similar argument that the best way to improve ROI for IT is to fight the mental disorder that burdens IT's reputation — those quality-of-mind crimes such as underinvesting, overinvesting and bad personal information-management behavior.

What leads me to this line of thinking is some work I've been doing with Hal R. Varian, dean of the School of Information Management and Systems at the University of California, Berkeley. While conducting focused research in the financial services market, we found the highest mental crime areas to be the following:

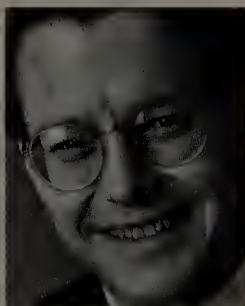
- **Information opportunity:** Determining where IT money should be spent.

- **Application IQ:** Spending the money on the right technologies.

- **Information economics:** Getting the best deal on the money we spend.

In recent years, the ability to purchase technology has run ahead of the typical organization's ability to extract maximum value from what it's been buying. The "whisper number" (the one no one likes to publicly acknowledge) for annual IT waste is around \$75 billion. These are dollars spent yearly on failed IT projects. IT managers are certainly not blameless in this annual value sinkhole, but we frequently forget that for every dollar wasted, there were users — let's call them "Suits" — who were very close to the center, where choices were made and value was determined.

The unspoken dirty secret in IT waste: "It's not the technology. It's the Suits who are funding the technology." For the longest time, IT managers had a credibility problem with the busi-



THORNTON MAY is a long-time industry observer, management consultant and commentator. Contact him at thorntonamay@aol.com.

ness. But in reality, the inverse is true; the business has a credibility problem with IT.

John Adams, one of the political geniuses behind the Declaration of Independence, often wrote his much-loved wife, even during the darkest days of the American Revolution. In one note, he said, "We cannot guarantee success, but we can deserve it." The truly sad reality of the pregnant-with-opportunity age we live in is that most Suits don't deserve success from their investments in IT. They haven't laid the groundwork or done the homework necessary to develop good IT judgment.

The question facing IT leaders today is, What is the minimal obligation of IT to educate the Suits in the non-toxic or, at a minimum, nonwasteful use of information technologies?

Most IT shops have determined that they need do nothing more than train

executives in the use of low-level desktop applications. This is the technology equivalent of a sixth-grade education. Technology literacy will become foundational to the economy of the future. Suits must know more about IT. IT leaders need to know more about what the Suits know and, more important, what they don't know about IT.

Regarding the technology literacy of executives, IT leaders need to determine the following:

- Things Suits currently "know" that they need to unlearn.

- Things Suits should know that they never learned.

- Things that accelerate the Suit technology-learning processes.

In advanced companies today, IT leaders are evaluating their peers on their technical competence. Your company should be doing it too. ▀

WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site: www.computerworld.com/columns

READERS' LETTERS

Measuring Risk

THE REPORT "Ridge Releases Cyberdefense, Physical Strategies" [QuickLink 36404] reflects the seriousness of the need for cybersecurity improvement — and the potential for regulatory intervention if the market fails to respond adequately. While government efforts to establish a cyberattack alert system are laudable, it is essential that both the private and public sectors get the kind of qualitative guidance, and associated risk metrics, that will enable them to identify, measure and manage the risks to their information technology and communications environments, and to get credible ROI data on information security investments. That means the establishment of the Generally Accepted System Security Principles. The principles are a standard population of threats and

quantitative risk assessment tools that enable organizations to identify, measure and manage risk confidently, applying the long-accepted measure of business — ROI — to the broad array of safeguard and control investments for information security.

Will Ozier

President, OPA Inc., Fairfield, Calif.

Broad Expertise

DAVID FOOTE'S column "IT Job Trends Yield Surprises" [QuickLink 36015] was informative, but the way he compares specialists to generalists seems a bit shortsighted. In my experience, being an expert in one field has many important benefits, regardless of the job market. One is that people often consider experts to be expert in other, complementary fields. An-

other arises during the pursuit of expertise: You naturally acquire ancillary skills, which often make you a generalist as a side effect.

My own career is a good example. I have been a Borland Delphi specialist since Delphi's inception. I marketed myself only as such. As a Delphi "specialist," I performed Oracle, Interbase and Microsoft SQL Server database design, Web design (including JavaScript and Perl), telecommunications, project management and more.

Michael Nigohosian

President, McGillis, Wilcox, Webster & Co., Chicago (and author of *The Secret Path to Contract Programming Riches*), m.nigohosian@mwwcorp.com

Following HIPAA

IHAVE BEEN LECTURING on HIPAA security and conducting compliance engagements since 1998. In the article "HIPAA Data Rules Leave Choices to IT" [QuickLink 36526], Karen Trudel of the Centers for Medicare & Medicaid Services is quoted as saying that encryption of health data transmitted over the Internet is no longer mandated and can be based on risk

assessments by companies. Actually, the business impact of doctors' encrypting health data is ultralow, but doing so is probably the single best security control to protect data that can be used in a small practice. TruSecure's Marne Gordon is also off base in saying that litigation-wary companies might stick with paper instead of rolling out automated medical records. The HIPAA privacy rule covers health records in all formats, paper or electronic. There is no advantage to not using electronic records, because you are still required to protect the data.

Fred Langston

Senior principal consultant, Guardent Inc., Seattle, Fred.Langston@Guardent.com

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

More letters on these and other topics are on our Web site: computerworld.com/letters

Teleworking Loses Some Face Value

UNFORTUNATELY, since most companies still don't have a formal teleworking plan in place, most managers still view telecommuting as a perk that is an exception rather than the rule [QuickLink 36517]. After six years of success-

ful telecommuting in the afternoons, I lost my last job because the conditions for retraining in the new system required daylong face time.

Ellen Cornell

Marblehead, Mass.



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¹IBM eServer pSeries 650 (8 processors, POWER4+, 1.45 GHz, 1.5 MB L2 cache per 2 processors, 64 GB memory) was certified by SAP on 1/16/03 with the following SAP Standard 4.6C SD application benchmark results: 1,220 SD benchmark users, 1.95 sec. average dialog response time, 122,670 fully business processed line items/hour, 368,000 dialog steps/hour, 6,130 SAPS, CPU utilization of 98% with DB2 v8.1 and AIX 5L version 5.2. Sun Microsystems Sun Fire V880 (8 processors, UltraSPARC III, 900 MHz, 8 MB L2 cache, 32 GB memory) was certified by SAP on 6/17/02 with the following SAP Standard 4.6C SD application benchmark results: 600 SD benchmark users, 1.96 sec. average dialog response time, 60,330 fully business processed line items/hour, 181,000 dialog steps/hour, 3,020 SAPS, CPU utilization of 99% with DB2 v7 and Solaris 8. Results posted at <http://www.sap.com/benchmark>. ²U.S. list price as of 2/28/03 for p650 Express Configuration with AIX 5L, 2-way 1.2 GHz POWER4+. Prices are subject to change without notice. Reseller prices may vary. IBM, the e-business logo, AIX 5L, DB2, eServer, POWER4+, pSeries and e-business on demand are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. UNIX is a registered trademark of The Open Group. Other company, product and service names may be trademarks or service marks of others. © 2003 IBM Corporation. All rights reserved.

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Not available through IBM.	Available through IBM and IBM Business Partners.
Doesn't actually exist.	2-way starts at \$31,495. ²



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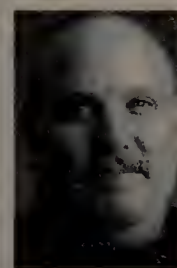
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Compression Relieves Congestion
WAN traffic compression appliances promise to let network managers increase loads without upgrading WAN links. Users tell us how well they work. **Page 30**

SECURITY MANAGER'S JOURNAL
When Bad Things Happen To Good Demos
A vendor's slick security product presentation shows Vince Tuesday that it doesn't have a clue what users want and need — or technology mature enough to deliver it. **Page 32**



OPINION
And Here's the Pitch
The beginning of baseball's spring training has Nicholas Petreley thinking about what might happen in a software World Series. **Page 37**

MICROPROCESSORS MARCH ON

Chip makers will have achieved 10 GHz and 1 billion transistors in five years, but progress is getting harder. By Gary H. Anthes



FOR MORE THAN THREE DECADES, microprocessors have doubled in power every 18 to 24 months. That progress will continue for another 10 years or so, chip makers say; then some new technology may have to be found to replace the silicon semiconductor.

Unfortunately, the companies that make microprocessors and use them to build computer systems can't just catch a free ride on the back of Moore's Law. As silicon transistors grow smaller — there will be a billion on a single chip in five years — chips become exponentially more expensive to design, manufacture and test. And the laws of physics intrude: In the mysterious realm called "deep submicron," for example, power dissipation gets nearly impossible to control, and cosmic rays cause random processing errors.

"The power-dissipation problem will prevent the further scaling after 10 years. Improvements will come about from system-level integration rather than transistor-level enhancements," says Bijan Davari, technology vice president at IBM's microelectronics division.

About 60% of the total performance gains in microprocessors have come from higher clock frequencies resulting from smaller and faster transistors. The balance have come from process-

Continued on page 26



MICROPROCESSORS MARCH ON

Continued from page 25

ing architectures that allow the execution of more than one instruction per clock tick. A microprocessor can do that by predicting the flow of a program through several branches of program logic or by executing instructions "speculatively" — before they are needed. But pushing those tricks further is becoming difficult and expensive.

"We've gone from being able to execute two instructions at a time to eight or more," says James Hoe, a professor of electrical and computer engineering at Carnegie Mellon University in Pittsburgh. "But we are at the limit. The architecture is not scalable." Hoe says microprocessor developers will increasingly rely on the following ambitious schemes to find "parallelism" in programs and job streams:

■ **Multithreading:** Breaking a single program into multiple instruction streams, or threads, to be processed simultaneously. Each thread could handle a data packet or transaction, for example.

■ **Simultaneous multithreading:** A technique that makes a single physical processor appear to software as two processors, so two programs can execute simultaneously, boosting total throughput. Intel Corp. calls it "hyperthreading."

■ **Chip multiprocessing:** The placement of two or more physical processor "cores" on one chip. The cores can run independently but share some resources. IBM is shipping a dual-core Power4 processor, and Sun Microsystems Inc. is expected to unveil one later this year in its UltraSPARC IV. Intel will introduce a dual-core Itanium chip in 2005.

■ **Runtime optimization:** Using a combination of special processor circuits and a dynamic runtime compiler to continuously analyze program behavior and reorder instructions for better performance. While this doesn't make the processor run faster, it does improve what the user cares about: throughput.

"It's becoming exponentially expensive to find more parallelism in a sin-

gle instruction stream," says Justin Rattner, an Intel senior fellow and director of microprocessor research. "So there will be increasing emphasis on thread-level parallelism, the number of threads per processor and the number of processors per chip."

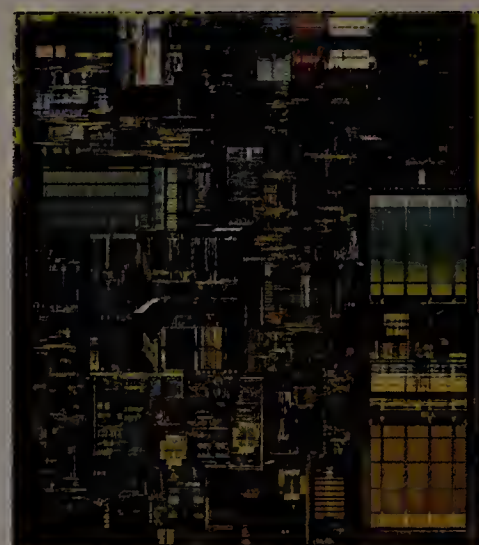
Rattner says Intel is also doing research on processors and compilers that together optimize program performance in real time. "We are looking at program-visible instrumentation so the compiler has access to [runtime conditions]," he says. "This is on the fly; this is the compiler in the loop."

The technique has improved performance by a factor of two to four, Rattner says. Improvements in basic semiconductor technology will triple microprocessor clock speeds in five years, he predicts. But those clock improvements plus improved exploitation of parallelism by various means will boost total throughput by a factor of six to seven, Rattner says.

Multithreading and chip multiprocessing will be especially important in servers, because they routinely handle workloads — transaction-processing, Web and database applications — that are inherently threaded.

Desktop PCs are more likely to run single-user, single-threaded applications. As a result, the relentless race for higher processing speeds on the desktop may soon be meaningless, says Kevin Krewell, a senior analyst and editor of MicroDesign Resources' "Microprocessor Report" newsletter.

"In servers, more power and scalability are always welcome," he says. "But on the desktop, what do you do with 3 GHz, 4 GHz, 5 GHz? There could be a plateau, when we get the 'good enough'



Dies like this one for an Intel Pentium 4 are used to fabricate microprocessors.

processor." Krewell says designs for desktop processors, and especially notebooks, will increasingly go after other things, such as low power consumption, low mass and quiet operation.

In the Silicon Trenches

While the microprocessor vendors work to boost throughput, at another level they toil to find ways to dodge the laws of physics. Current silicon processors have circuit features that are 130 nanometers (nm) wide. Future generations, coming at two-year intervals, will shrink that to 15 nm or so — about as low as you can go in silicon. Getting there won't be easy.

"As we go from 130 nm to 90 nm to 65 nm and then to 42 nm, the standby power dissipation is the single most important problem at the silicon and circuit design level," says IBM's Davari. The leakage of power, which is wasteful and generates heat, increases "dramatically, exponentially," he says.

IBM and other companies are turning to "strained silicon," a technique that boosts performance and lowers power consumption by stretching silicon molecules farther apart, allowing electrons to flow through the transistors up to 70% faster. Chip makers are also experimenting with new materials and methods for making "gates" — which control the electrical flow through a transistor — smaller, faster and more efficient. "These things all started as performance solutions, but now they are solving power problems," Davari says.

Davari says IBM may eventually extend its existing dual-core architecture to hundreds of processors on a chip. It will also integrate dynamic RAM with logic on a single chip, greatly reducing CPU-memory communication delays, increasing throughput and lowering power consumption. And it will move application-specific functions, such as encryption, video compression or speech processing, from software or off-chip hardware to the processor chip, he says.

Dual-core processor chips will bring performance gains, but there may be cost drawbacks, Krewell says. The question is whether software vendors will view a dual-core processor as one or two processors for licensing purposes. "Intel convinced Microsoft that hyperthreading is one processor, although it looks to the software like two processors," he says. "But as you put two cores on there, then four cores, will vendors still consider it one processor?"

PROCESSOR PROGNOSTICATIONS

Read a forecast of how the competition among microprocessor vendors will play out over the next few years:

QuickLink 36226
www.computerworld.com

SIZE MATTERS

High-end servers today contain 64-bit processors, while desktops and notebooks run 32-bit CPUs, as do many low-end servers. Most servers need, or would at least benefit from, the 4GB-plus memories that a 64-bit address space permits. Vendors disagree on the timing, but it's reasonable to think that desktop PC users will someday also want 4GB of memory.

It will be more than five years before desktop PCs are routinely powered by 64-bit processors, says Justin Rattner, director of microprocessor research at Intel. In the meantime, Intel's 64-bit Itanium line for servers and the 32-bit x86-based processors for desktops and notebooks will move ahead independently.

In contrast, Advanced Micro Devices Inc. says it will move its entire line of microprocessors to 64 bits in 2004. Its new Opteron chip for servers, to be introduced next month, will be able to run both 32- and 64-bit software. Servers with 32-bit processors will be obsolete in a year, and desktop users will want 64 bits in three to five years, "when 4GB of memory will be pretty cheap," says Fred Weber, chief technology officer for computation products at AMD.

The companies' different outlooks on the migration to 64 bits can

perhaps be explained by their very different processor architectures. AMD has built instruction-set compatibility between its 32-bit processors and its 64-bit processors. Code can be easily ported from one to the other and will perform well on either, AMD says. IBM and Sun have built a similar compatibility into their 32- and 64-bit processors. Intel chose to go a different route: The 64-bit Itanium line is an entirely new architecture with a different instruction set from the old x86 architecture, which the company now calls IA32. The Itanium performs poorly in 32-bit-emulation mode, analysts say, and code can't be ported from IA32 to Itanium without recompiling and testing.

"If you are moving from x86 to Itanium, it's a big job," says Kevin Krewell, editor of "Microprocessor Report." "That's why Intel has been helping — with a lot of development money — software vendors to recompile for Itanium."

Nevertheless, he says, there are advantages to Intel's separate architectures: Banias for mobile, Pentium for desktop PCs, Xeon for workstations and low-end servers, and Itanium for larger servers. Each can be tailored and tuned to meet different objectives. The much-smaller AMD can't afford to do that, Krewell says.

— Gary H. Anthes

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WANTRAFFIC

QUAKER CHEMICAL Corp. faced a dilemma. The Conshohocken, Pa.-based company wanted to bring a bandwidth-intensive enterprise resource planning (ERP) system online without making costly upgrades to its frame-relay links between five locations in Europe and the U.S. So Bubba Tyler, vice president and CIO, tried installing wide-area network traffic-compression appliances in each location. The devices freed up enough bandwidth to meet the needs of the ERP application. In fact, they performed so well that Tyler is considering reducing the size of the existing connections.

Companies with far-flung operations are increasingly turning to traffic compression appliances as lower-cost alternatives to upgrading the bandwidth of WAN links. The technology behind these appliances isn't all new, but corporate IT budget constraints and a return on investment in as short a time

as one year have made the devices an increasingly attractive option.

Some of the compression algorithms used in these appliances have been around for a decade or more and have been available as add-on software or hardware to WAN routers from Cisco Systems Inc. and others. For example, a compression card can be added to Cisco's 2600 router for \$995 or to its 3660 and 3700 series routers for \$2,000.

But with IT focusing on cost savings, several small WAN compression appliance vendors have jumped in with plug-and-play products that they claim are more efficient and easier to configure. The vendors claim that their tools improve throughput by a factor of two to 10 and boast higher compression rates than compression-enabled switches.

Cisco dismisses the claims. "We've seen interest in compression for years but have never seen the market take off," says Kip Sides, manager of product marketing at Cisco. The reason: the "expense of deploying and managing

it, and the benefits aren't really that significant," he says. "We could, over time, see a reasonable benefit to new technologies, but we are skeptical."

Some users and analysts disagree. Cisco seems focused on providing bigger, more comprehensive networking platforms rather than compression add-ons, says Mark Fabbi, an analyst at Gartner Inc. in Stamford, Conn.

Quaker Chemical's Tyler says he didn't want to go through the time and complexity of setting up his Cisco gear for compression, opting instead for appliances from Peribit Networks Inc. in Santa Clara, Calif. "We could spend days or maybe weeks tuning the Cisco switches and have to use other equipment to do the analysis, or we could just plug in the [Peribit] SR-50s and be up and running," he says.

The results speak for themselves, says Tyler. "We now estimate we won't have to add any bandwidth for our ongoing growth in the ERP and other applications we have on the drawing board," he says. Instead, Tyler is considering reducing the committed information rate on some frame-relay links, which currently range from 256K to 1.44M bit/sec. The SR-50 appliances sell for \$6,000 each, but he says it would have cost him three to five times that amount to increase bandwidth, depending on the link.

GeoLogistics Corp. connected 29 branch offices to its global data center in England using Accelerator 1800 de-

WAN traffic-compression devices can free up bandwidth on busy links, eliminating expensive service upgrades. **By Matt Hamblen**

COMPRESSION RELIEVES CONGESTION

Quaker Chemical's WAN Traffic Crunch



vices from Expand Networks Inc. at each site and two Accelerator 4800 boxes at the data center, says international network manager Morey Straus. The Santa Ana, Calif.-based global freight logistics provider began adding the devices from Roseland, N.J.-based Expand in 2001, when bandwidth demands started rising as a result of a move from dumb terminals to PCs and thin clients.

"When I first heard about Expand, my initial reaction was that it was probably just more Cisco compression, which gives you maybe a 15% improvement," says Straus. "But with Expand, we've been getting between three to four and a half times the throughput. It's a world away from Cisco compression." Straus says the system paid for itself in three months. His average cost to double the port speed from 64K to 128K bit/sec. on one link was \$8,000. He equipped each site with an Expand appliance for less than \$2,000; the two boxes at the data center cost \$20,000.

Dreyer Medical Clinic in Aurora, Ill., deployed Accelerator boxes on each end of four 56K bit/sec. point-to-point circuits in northeastern Illinois, says Stephen Hart, network and systems administrator.

"We didn't want to upgrade the lines, since it costs from \$600 to \$2,300 a month to install a T1," he says. The eight appliances, which have been deployed for about two years, cost \$12,000, plus \$250 annually per appliance for support, he says. Hart says the

boxes paid for themselves in less than one year.

Dreyer has since installed Citrix Systems Inc. thin-client applications, which he says could be a "network hog," but the system has been able to support that, he says. "We get up to nine times the performance increase, and there are no data integrity issues," he notes. Most users have no idea the system is in place, he says. "I never get a call saying the system is running fast today, but it prevents a slowdown."

The Secret Sauce

All the vendors use similar technologies that find common bit or byte patterns, replace them with much shorter markers that refer to the original data and transmit those to the recipient. All appliances expand on older, well-established compression technologies such as Lempel-Ziv-Stac, named after its creators. But that doesn't mean the appliances are standardized — or interoperable. Current offerings require the installation of identical compression appliances on each end of a WAN link, usually inside the corporate firewall, to avoid security problems.

Expand uses at least two different compression algorithms. Its appliances sort headers by type of traffic, such as file transfer protocol, and remove redundant information common to each traffic type. They then use a bit pattern-recognition algorithm that determines data stream patterns and caches those on both sides of the WAN.

Peribit has patented a technique it calls Molecular Sequence Reduction (MSR) that's based on pattern-recognition algorithms previously used to study DNA, says Amit Singh, Peribit's co-founder and chief scientist. He claims that MSR holds tens to hundreds of megabytes of patterns, while other devices examine only a 2KB window of data before moving to the next window. MSR also has a built-in "adaptive dictionary" of patterns that puts greater value on the most frequent and largest patterns seen in data streams.

Peribit makes the highest performance claims, but analysts are dubious about the company's claims of technological superiority. "Peribit has made

lots of noise about its DNA connection, but its technology is not significantly different than Expand's, [and] Expand has been more successful with customers," says Thomas Mendel, an analyst at Giga Information Group Inc. in Cambridge, Mass. Expand's aggressive pricing may help explain that. Peribit responded in January with the introduction of a new low-end model, the \$2,900 SR-20.

WAN traffic appliances remain a niche market dominated by small players. Peribit has been shipping products for just 15 months and boasts 100 customers worldwide, and Expand claims to have more than 500 customers.

Both vendors and analysts expect more users to turn to these devices, but they differ in growth estimates. Jef Graham, president and CEO of Peribit, expects WAN traffic-compression sales to shoot to \$5 billion in coming years. "That's overstated by a magnitude of 10 or more," counters Fabbri. Mendel puts that market, which is mainly held by Peribit and Expand, at about \$20 million, and he says it will expand to \$50 million in mid-2004.

But Mendel also warns that the vendor landscape could completely change in the next two years. He expects the market for stand-alone compression appliances to last perhaps another two years before the functions are absorbed into the next generation of routers offered by Cisco and others. That means an IT manager should deploy only if he expects an ROI in a year or less. "If you can't calculate an ROI of 12 months or less, don't do it," he says. ▀

COMPRESSION DECISION

Quaker's Bubba Tyler discusses the pros and cons:

QuickLink 36461
www.computerworld.com

Compression Appliance Offerings

Peribit Networks Inc.

Santa Clara, Calif.,

www.peribit.com/

Peribit claims its SR series rack-mounted appliances can improve capacity by a factor of up to 10. The SR-20 supports sub-512 K bit/sec. circuits; the SR-50 and 55 support up to 2M bit/sec. Pricing starts at \$2,900.

Expand Networks Inc.

Roseland, N.J.

www.expand.com/

Accelerator series pricing starts at \$2,000. Expand claims up to a three and a half times capacity improvement.

ITWorx Inc.

Burlington, Mass.

www.itworx.com

NetCelera starts at \$2,500 for a 64K bit/sec. connection and supports up to 45M bit/sec. links. ITWorx claims it can improve capacity by a factor of up to 10.

Packeteer Inc.

Cupertino, Calif.

www.packeteer.com/

With PacketShaper Xpress, Packeteer has added acceleration capabilities to its PacketShaper route optimization line. Prices start at \$5,000 for a 128K bit/sec. connection.

When Bad Things Happen to Good Demos

A slick security product demonstration only serves to prove that vendors often don't think enough about what security managers need. By Vince Tuesday

“HOW MUCH MONEY do you have in your budget? You have to be aware that this is very expensive software.”

Ah, the not-so-sweet sound of the sales pitch.

Much of my work as a security manager is like that of a juggler, always keeping balls in the air. My daily goal is to deal with the next falling ball, be it a virus attack, a new e-commerce project or some suspected abuse.

This week, however, I was able to lift my gaze for a few days to think about future needs and meet with vendors. And once again, a slick product demonstration showed all too clearly one vendor's fundamental inability to understand our needs.

Two Challenges

We are meeting with vendors to address two challenges. First, we need to better manage the volume of security data we gather. Our antivirus applications, vulnerability data, intrusion-detection systems, firewalls, routers, operating systems and everything else we touch produce valuable security data, but in different formats.

It's expensive to train our staff to understand this modern-day Tower of Babel, and it takes up costly extra time when we must deal with incidents. If we could automatically translate and link security events, we would reduce costs and further improve our defenses.

The second challenge is to step up monitoring beyond our signature-based approach to detect unusual or anomalous behavior that doesn't match a known signature. Given that the SQL Slammer worm is reported to have taken less than 10 minutes to infect every vulnerable system

on the planet, it's clear that waiting for an update from a vendor isn't going to work on its own.

Pulling together diverse security information is a common

problem, and many vendors have products to address it, including the vendor whose salesman finished up his session with that pitch I quoted in the beginning of this article. I looked into this area a few years ago, and the products were very immature. I was hoping that the latest versions would have something interesting to offer.

We invited several vendors

“The product ran and worked, which in some ways was the curse of their presentation. If they had stuck with PowerPoint screenshots, we wouldn't have seen what made the whole thing useless to us.

to demonstrate how their software could save us time, effort and cost.

The vendor I mentioned previously certainly put on a good show. Its salespeople arrived with an entire network in a suitcase and proceeded to unpack and set up servers, clients and a hub. The product ran and worked, which in some ways was the curse of their presentation. If they had stuck with PowerPoint screenshots, we wouldn't have seen what made the whole thing useless to us.

Poor Display

The tool pulled in an enormous range of data, stored it in a database, correlated root causes and generated alerts on them. It sounded good.

However, the front-end software had an awful graphical user interface. It was clunky and slow — an unpleasant thing to force on my analysts, who would use it day in and day out.

The procedure that addressed the detection of correlated events was particularly bad. A window popped up that displayed an identification. But when I'm presented with an alert indicating that a whole series of linked things has happened, I want to see the details of all the underlying events and the reasoning used to link them, so I can understand how to respond. The sales team understood this, so they had cut and pasted the ID into a SQL report and run a report against the database.

But the whole point of this application was to reduce my team's manual work. Why couldn't we just click? Apparently, we could add our own scripts to take the action we wanted when an ID was raised.

But isn't the point of buying

software to get something that does the work for me? If I wanted a framework, I'd just send all the money I have to BMC or Tivoli.

Then came the deal-killer. If you wanted to see whether new events had occurred within that correlation, the tool couldn't tell you. Instead, you had to rerun the report. So you might get an ID for a few innocuous linked events and discount it, and unless you continually reran the report to check, a bunch of horrible events could be added under your nose. My team has enough problems keeping up with the raw data without adding another layer of work.

Not to worry, though. Apparently, these “minor” issues will be resolved in the next version. If a product saves me a lot of money, then I'll pay a lot for it. It's simple, really. In this case, I don't have to worry how expensive this tool might be, since I won't be buying it.

It looks like I won't be saving money by automating our processes just yet. I'm sure some managed-service providers have ways to do this well. But since that's the core of their business, I doubt they'll sell it to me on a CD.

Perhaps the new generation of anomaly-detection software will have something worth emptying my budget into. But I had best be off to meet with more vendors before all those balls I'm juggling start coming back down. ▀

WHAT DO YOU THINK?

This week's journal is written by a real security manager, “Vince Tuesday,” whose name and employer have been disguised for obvious reasons. Contact him at vince.tuesday@hushmail.com, or join the discussion in our forum:

QuickLink a1590

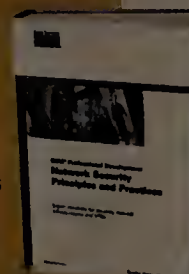
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computerworld.com/secjournal

SECURITY LOG

Security Bookshelf

Network Security Principles and Practices, by Saadat Malik, Cisco Press, 2002



This 774-page tome is a detailed technical guide to protecting and managing large networks. It covers protecting Cisco Systems Inc. devices and managing and configuring firewalls, virtual private networks and intrusion-detection systems. It also discusses how large networks and Internet service providers can protect against distributed denial-of-service attacks. I found the guide to troubleshooting installations particularly useful.

The book covers only Cisco products, but much of the guidance is applicable to other companies' wares. It's a must-read if you're considering taking security-related Cisco Certified Internetworking exams. I would also recommend it to anyone involved in the technical details of protecting large networks.

— Vince Tuesday

StillSecure Does Desktops

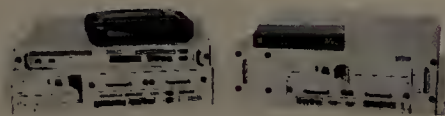
Latis Networks Inc. in Superior, Colo., has released Version 2.0 of the StillSecure Vulnerability and Assessment Management suite, which includes a new desktop module and helps users scan, track and manage vulnerabilities on Windows and Macintosh systems. Annual pricing starts at \$895.

New Tool Blocks Worm Traffic

Silicon Defense Inc. announced CounterMalice, a tool that monitors and blocks network traffic associated with worms. Instead of relying on worm signatures, the product detects and blocks suspicious traffic patterns at the network layer, according to the Eureka, Calif.-based vendor. CounterMalice ships in the next quarter; pricing starts at \$25,000.



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Third Quarter 2002
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Presence Technology

DEFINITION

Presence technology allows a network user to know when another user is connected to the network and thus available to receive and immediately answer a communication. Instant messaging, pioneered by America Online, is the first and best-known example of a presence technology.

BY RUSSELL KAY

IN TODAY'S INFORMATION economy, digital technologies let us easily communicate with colleagues and customers around the world. E-mail has given us an asynchronous communications medium that helps free us from the strictures of time-zone differences. We can send a message at any time and get a reply at the other person's convenience.

But there can be times when we may need a quick answer from, say, any of a dozen people, and it takes a while just to find one of that dozen who is available.

QUICK STUDY

With the growing use of instant messaging (IM) technology, such as America Online Inc.'s AOL Instant Messenger (AIM) and Microsoft Corp.'s

Messenger services, we now have a better alternative.

If we have those dozen people on our "buddy list," we can tell at a glance if any of their computers are logged onto the network and whether they've been active recently. We can tell if Judy in engineering is open to communications, and we can send her a quick IM to ask a question. Her reply by IM or phone can resolve the problem efficiently.

Although AIM started as a consumer-grade technology, it was quickly adopted by many businesses that saw its advantages in enabling quick communications and providing presence information.

The rapid growth in its use brought competition, notably from Microsoft and Yahoo Inc., which made their own products that interoperated with the AIM servers. However, AOL soon managed to shut them out, and the result for the past several years has been a plurality of competing networks of IM products that can't talk to one another.

Compatibility? Interoperability? Standards? Not yet,

but there's hope for the near future (see box below). One potential complication is that in September 2002, AOL received a U.S. patent on IM technology. To date, AOL has given no indication that it intends to charge its competitors with infringement.

A Wider Presence

The traditional model of IM is widening rapidly as more people carry handheld wireless devices and as cellular telephones perform more functions.

LM Ericsson Telephone Co., Motorola Inc. and Nokia Corp. formed the Wireless Village Initiative to build presence technology into their mobile-phone services (also called m-presence capability). Officially known as the Instant Messaging and Presence Services Solution (IMPS), this should let users know if the people they're trying to contact are available, even before they pick up the phone. You'll only have to push a few buttons to see if the other person's phone is turned on and if that person is on the phone, in a meeting or even at lunch.

There's even discussion of using Global Positioning System technology in future versions of m-presence to let you know where a person is even before you make the phone call. This is similar to recent moves to incorporate location data into cell phone transmissions for law enforcement and public safety purposes.

Once that capability is in place, extending it to other devices and other inquiries is a potential next step. But before that can happen, we need more and better interoperability among messaging networks. ▀

Kay is a Computerworld contributing writer in Worcester, Mass. You may contact him at russkay@charter.net.

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Standardizing IM and Presence

THOUGH MANY INTERNET standards make IM and presence technology possible, there aren't yet any definitive standards across the industry. However, the incompatibility of current IM products, which has resulted in three major silos of users, may be coming to an end.

The Internet Engineering Task Force's (IETF) recently approved a new working group to focus on the Extensible Messaging and

Presence Protocol (XMPP).

According to the group's charter (on the Web at www.ietf.org/html.charters/xmpp-charter.html), "XMPP is an open, XML-based protocol for near real-time extensible messaging and presence. It's the core protocol of [Denver-based Jabber Inc.'s] Jabber Instant Messaging and Presence technology, which is currently deployed on thousands of servers across the Internet and is used by

millions of people worldwide."

Session Initiation Protocol (SIP), a signaling standard for setting up and managing communications sessions between different media, is one of two key protocols for presence technology [QuickLink 35318].

The other important protocol is SIP for Instant Messaging and Presence Leveraging Extensions, which isn't yet an IETF standard but still serves as a uniform way to add presence.

—Russell Kay

Getting the Messaging

PUBLIC SERVICES: These include AOL Instant Messenger, MSN Messenger and Yahoo Messenger. These products:

- Are available to everybody.
- Are often free.
- Use a centralized, third-party server to relay messages.

PRIVATE SERVICES: These three providers of public IM systems also have enterprise versions designed for corporate use: AOL Enterprise AIM, Yahoo Messenger Enterprise Edition and Microsoft Messenger Connect for Enterprises. These products offer:

- Secure IM
- Message logging
- Enterprise-class service
- Corporate control of messaging servers and policies

COLLABORATION TOOLS: These collaboration systems include presence technology:

- IBM Lotus Sametime software
- Groove Networks Inc.'s Groove Workspace
- Microsoft's Windows Server 2003

PRESENCE TECHNOLOGY PRODUCT VENDORS:

- **Bantu Inc.**
Washington
www.bantu.com
- **Comverse Inc.**
Wakefield, Mass.
www.comverse.com
- **Dynamicsoft Inc.**
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www.dynamicsoft.com
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www.notepage.com
- **PresenceWorks Inc.**
Alexandria, Va.
www.presenceworks.com
- **Vayusphere Inc.**
Mountain View, Calif.
www.vayusphere.com

BRIEFS

SCO Group Ships OpenServer 5.0.7

The SCO Group Inc. has released Version 5.0.7 of its OpenServer Unix operating system, with enhanced hardware support, integrated open-source tools and a new SCO Update Service. It's available in Enterprise, Host and Desktop versions and includes Universal Serial Bus 2.0 integration and new driver support. It supports Intel Corp.'s Pentium 4 and Xeon chips, as well as Athlon XP and MP chips from Advanced Micro Devices Inc. Lindon, Utah-based SCO has priced the operating system starting at \$699.

Datastick Rolls Out Bluetooth Software

Datastick Systems Inc. in Santa Clara, Calif., last week announced new software that will use Bluetooth wireless technology to connect manufacturing-floor sensors to Palm Inc. handhelds. The software, Datastick Connection Plus BT for ICHM, runs on Palm's Tungsten T and m500 series handhelds with Palm's Bluetooth card. The software is available on a Bluetooth-enabled manufacturing-floor sensor from Oceana Sensor Technologies Inc. in Virginia Beach, Va. Pricing wasn't disclosed.

Vendors Bring Office to Linux

Tarantella Inc. and CodeWeavers Inc. are partnering to offer secure Web access to Microsoft Office and other Windows applications hosted on Linux servers. St. Paul, Minn.-based CodeWeavers will offer a new Internet-optimized version of CodeWeavers Cross-Over Office Server Edition, which allows Linux to run Windows applications in a distributed thin-client environment. The software will be available next month as part of Tarantella's Enterprise 3. Pricing starts at \$2,380 for 25 users from CodeWeavers and \$150 per user from Santa Cruz, Calif.-based Tarantella.

NICHOLAS PETRELEY

And Here's The Pitch

“WELCOME, FOLKS, to the first game of the software World Series, with Microsoft going up against the Customer. I'm Harv Coney, doing the play-by-play with my co-host, Hank Kee.

“Bill Gates is the lead-off hitter for Microsoft, with Jean Paoli on deck. Bill will be facing right-hander Mark Kett tonight. Mark is famous for his Linux-ball, which has given Gates trouble all season. What do you think Bill's going to do tonight, Hank?”

“It's hard to say, Harv. Bill is a good switch-hitter. Remember back in 1996 when Microsoft played Unix Expo in New York? He got an infield single by saying Windows NT was basically the same thing as Unix.

But he's almost sure to go for a Unix slam tonight.”

“Here comes the first pitch. And it's a Linux-ball, high and inside. Bill swings and misses with a comment about how hard it was for Microsoft to compete when IBM put all its resources behind OS/2.”

“Wow, I don't think anyone saw that coming, Harv. Everyone knows our bat-boy supported OS/2 more than IBM did.”

“Good point, Hank. Now here's the windup. And the pitch. Bill swings and misses with the ‘too many incompatible versions of Linux’ comment. That's Strike 2. Kett fidgets on the mound. And here's the windup for the 0-2 pitch. He fires another Linux-ball, this time straight down the middle! Bill hits the ball down the left-field line with the comment that ‘Linux is like Unix, which is like building a 747 by committee.’

“Left fielder Reggie Stir gets a bead

on the ball and catches it easily with the old joke about how Windows is like an attractive plane that explodes in midair without warning. One out; and that brings up Jean Paoli.”

“Harv, Jean's had a pretty good batting average against the press with XML this year, but his overall average is low, especially against pennant contenders.”

“Here's the first pitch to Paoli. It's a Linux-ball low and outside for Ball 1. Kett works quickly; he winds and deals. It's an OpenOffice change-up. Paoli swings with Office 11 and hits it right to the shortstop, Sunny Micro—who boots the ball! Paoli rounds first base as Sunny finds the handle and throws it to Dot Org at second. Now the runner's hung up between first and second! He's got nowhere to go, and Dot runs him down and tags him for the second out.”

“I suspected Jean might get himself

into a pickle. If he's lying about opening up the Office document format, there'll be a backlash from customers. If he really opens up the document format, the free OpenOffice will import those documents and draw away customers.”

“That's right, Hank. Well, it's up to the next batter, Pat Ent, to give Microsoft a little life this inning. Wait, it looks like Microsoft is sending in Dee R. Emm to pinch-hit for Pat. Dee spends most of her free time promoting digital rights.”

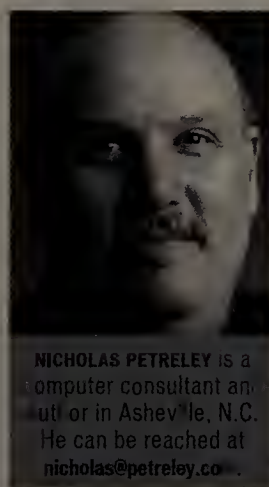
“Right now she has to worry about Kett's privacy-ball, Harv. She's been batting under .100 against that pitch all season. But she's had her scouts out researching everything they can find out about Mark Kett and his pitching strategy, and I hear she has a pretty detailed database on Mark—including what he does in his personal life.”

“Here comes the first pitch. It's a Media Player-ball low and inside. Emm hits it with a list of all the DVDs Kett has watched over the past six months, but it's out of reach in foul territory. Kett's into his windup; he delivers—and it's way out of the strike zone. Wow, that was almost a wild pitch, Hank. Dee seems to have unnerved him with that last swing.”

“Maybe she hasn't listed *all* of the DVDs.”

“Good point, Hank. Now Mark comes back with the privacy pitch. Dee hits it deep into center field! Going, going—gone! And it's 1-0 Microsoft, in the top of the first!”

“Well, Harv, it looks like there's plenty of excitement ahead. We'll be right back after this word from our sponsor, Microsoft.” ▀



NICHOLAS PETRELEY is a computer consultant and author in Asheville, N.C. He can be reached at nicholas@petreley.com.

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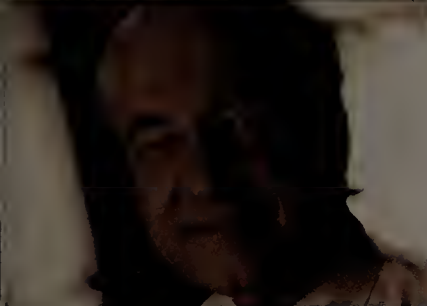
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THE POSSIBILITIES ARE INFINITE



All or Nothing

General Motors farms out nearly all of its IT operations, while Bank One has brought most of its IT work back in-house. Their CIOs tell how business needs and the economy guided their IT decisions. **Page 42**

Predictable Surprises

Many disasters are preventable if you know how to spot them coming, says Michael D. Watkins, who wrote an article about the subject in this month's *Harvard Business Review* with Max H. Bazerman. **Page 44**

OPINION

Look Before You Leap to Outsource

Do your homework before signing on the dotted line, advises columnist Bart Perkins. **Page 46**



OUTSOURCING IS OFTEN A DIRTY WORD among the IT ranks, but CIO George Lin has used it to boost morale at Documentum Inc., a maker of enterprise content management software in Pleasanton, Calif.

When most companies outsource, Lin says, they "keep the core and outsource the context." But Lin gives employee satisfaction equal weight in the outsourcing decision. That has prompted him to keep in-house some areas that many would consider "context" and outsource some that are "core."

"If everybody else is outsourcing something, maybe you should too, but it really depends from company to company," says Lin, whose unconventional approach has made his IT group a model for out-of-the-box thinking at the company.

Lin isn't alone. Iconoclastic IT leaders are learning that when it comes to outsourcing, thinking about the idiosyncrasies of your business is much more important than following the rules. For example, the IT help desk is often the first thing to go because it plays a supporting role that's not seen as adding value. But an early attempt at outsourcing taught Lin that the help desk is the business's window to IT.

"No matter how good your back-end operation is, it's only as good as it's perceived at the help desk," Lin explains. "So if you outsource that without thinking it through, you can create an internal perception that customers are not getting the best service."

Lin's philosophy also led him to outsource Documentum's worldwide network, a core technology for the company, which is dispersed geographically. Senior network engineer Stan Wolf was spending too much of his time manually rerouting traffic among company sites when the Internet or frame-relay network connections failed.

"He was pulling his hair out trying to keep the network working," Lin recalls. And because the company was growing rapidly, the addition of more sites

would soon make things worse.

Lin outsourced networking responsibility to Virtela Communications Inc. in Greenwood Village, Colo., which provides and manages a virtual private network across 39 Documentum locations. Each site now has a single primary connection for Internet and wide-area network (WAN) access and a fallback Digital Subscriber Line service in case of failure.

Virtela manages everything, including the last-mile connection and the various intricacies of each site.

The virtual private network has increased bandwidth at the sites by 25% to 100%, decreased latency by 10% and cut WAN costs by half. But most important, Lin says, "we gave the network guy back his sanity. Now, instead of worrying about lights and switches, he's really leveraging his skill set to help the business."

"It can be a big career boost for people when you outsource those things where you can't add value as an internal IT worker," says Julie Giera, an ana-

Continued on page 40

**OUTSOURCING
WATCH 2003**

Breaking Outsourcing Boundaries

Forget following the conventional rules. Focus on the idiosyncrasies of your business.
By Kathleen Melymuka



SETH AFFOUMAGO

Documentum

CIO: GEORGE LIN

IT Challenge: Managing a virtual private network across 39 locations, while anticipating further growth.

The Payoff: The virtual private network has increased bandwidth at the sites by 25% to 100%, decreased latency by 10% and cut WAN costs by 50%.

Lessons Learned: Employee satisfaction and technology concerns must be given equal weight in outsourcing decisions.

Continued from page 39

lyst at Giga Information Group Inc. in Cambridge, Mass.

Wolf agrees. "This frees me up to focus on business requirements and overall service delivery to internal customers," he says.

Moreover, Lin's unconventional approach has made IT a model department. "Outsourcing has been a very critical component of our strategy," says Documentum CEO Dave DeWalt. "I showcase George and his operations to our customers."

All in the Family

Early in 1998, Y2k preparations and other large initiatives were straining human resources at Allstate Insurance Co. in Northbrook, Ill. Nearly 50% of the IT workers were contractors. "It was extremely expensive and getting more and more difficult to manage," says Mike Scardina, assistant vice president for finance. Contractor turnover was also a problem. "People would walk out the door with two to four years of Allstate knowledge," he says. Allstate had to find a way to keep its intellectual capital and lower costs.

The solution was to bring outsourcing in-house. Allstate's parent company, The Allstate Corp., developed its own offshore outsourcing operation, Northbrook Technology of Northern Ireland Ltd. in Belfast. "We went to Belfast and found the cost structure, language accessibility, culture and time zone all extremely advantageous," says Scardina.

Initially, Northbrook performed maintenance and low-contact development work that didn't require much interaction with the U.S. group. But in its third year, the group is dealing more directly with users in the U.S., maintaining or developing more than 60 Allstate systems, including Unix administration, security, financial and infrastructure applications, and technology for agents, call centers, underwriters and claims. Costs have been reduced by more than half.

Northbrook also has been a source of skills in newer technologies that are harder to find in the U.S. marketplace, such as speech recognition. "It's a great resource for us," says Chief Technology Officer Cathy Brune. "And we don't have to think twice about the contract or developing a whole new relationship," because the people are employees of the parent corporation.

The six-hour time difference gives Brune additional flexibility for shift work, but it also allows real-time communication during the day.


"It's pretty clever," says Giga's Giera. "I think you're going to see this continue as a trend. Just as companies moved manufacturing offshore because it's cheaper to make sneakers in China, programming and IT can be another business process to move offshore."

But it's not for everybody, she adds, citing a large bank in New York that created a subsidiary in India that failed because business units resisted sending work out. "The key is to have executive support, enough work to support it and an incentive for the business units to use the offshore facility," she says. "Otherwise, it won't succeed."

It's also important to treat such outsourcing arrangements as business —

“We don't have to think twice about the contract or developing a whole new relationship [because the people are employees].”

CATHY BRUNE, CTO, ALLSTATE



Allstate Insurance

CTO: CATHY BRUNE

IT Challenge: Bring outsourcing back in-house to retain talent and lower costs by creating an offshore outsourcing entity, Northbrook Technology of Northern Ireland Ltd.

The Payoff: Costs have been reduced by more than half, and Northbrook is a source of skills in newer technologies that are harder to find in the U.S.

Lessons Learned: Such projects need executive support, adequate demand for IT services and an incentive for the business units to use an offshore facility.

DAVID JOEL

not family — relationships, says Stuart Kliman, a director at Vantage Partners LLC, a consulting firm in Boston that specializes in helping companies institutionalize their relationship management capabilities. "You shouldn't assume just because you own [the outsourcing unit that] you will work effectively with them," he says. "I would attend to the core organizational working relationships with as much if not more discipline than I would with a traditional provider."

Northbrook is handling all of Allstate's outsourcing, and the demand for its services continues to grow as business units look to cut costs. The Northbrook staff has grown to more than 700, with 2003 revenue in excess of \$30 million, and Allstate's U.S. IT staff has grown as well, Brune says.

The Hybrid Approach


In a financial services company like Coast Capital Savings in Vancouver, British Columbia, the technology for the banking operation is about as core as you can get, but Coast Capital outsources it — sort of.

CIO Joel J. Rosenberg uses Sanchez Computer Associates Inc. in Malvern, Pa., an outsourcer that develops and maintains core banking technology for financial institutions throughout the world. But his internal IT employees have access to the Sanchez source code, enabling them to connect the core system to custom applications such as data warehouses, ATMs and debit card systems. "We'll leverage the vendor's expertise and skills as we see fit in terms of business needs," says Dave Smart, manager of business solutions. "Because we have the source code, we're able to meet business needs with in-house resources."

"They focus on improving the technology platform," Rosenberg says. "Our internal IT people focus on issues closer to the customer." For example, the IT group is currently integrating the core system with a new customer relationship management system from Talisma Corp. in Kirkland, Wash. "Banking data and information will be flowing in real time," says Rosenberg. "It requires real-time linkage, so our folks are working on that."

"We understand the business requirements and do business programming," Smart says. "We don't do low-level programming. We don't support the database. That's a skill set we're not interested in."

Giera says leveraging in-house skills is a good way to do more with less. "That's where companies get the most



TO JOEL J. ROSENBERG

IT Challenge: The hybrid outsourced staffing arrangement was chosen following a merger with a firm that had already been planning to convert to a new system.

The Payoff: An 80% savings over projected costs

Lessons Learned: Managing the processes that enable in-house folks to work with outsourcers is key to preventing negative perceptions and establishing trust.

value out of their programming staff, because they know not only the technology but also the business," she says.

It's also economical. After a recent merger with a financial institution that was planning to convert to a new system, the new partner was drawn into the hybrid arrangement, partly because it was expected to deliver 80% savings over projected costs.

Kliman applauds the practicality of hybrid outsourcing, but he notes that this type of relationship brings challenges. "Companies in this situation should really pay attention to the processes they put in place to enable their in-house folks to work effectively with the outsourcers," he says. "If they don't manage that well, negative perceptions and trust problems could lessen the value."

Keeping your priorities straight is the key to successful outsourcing, says Documentum's Lin. "Outsourcing should improve the agility of the business and the agility of the IT organization and make it more effective," he says. "When it's done right, outsourcing is a win for everybody. If you realize cost savings, that's a bonus." ■

Melymuka is a Computerworld contributing writer. Contact her at kmelymuka@earthlink.net.

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GM and Bank One take opposite approaches to outsourcing. By Thomas Hoffman



DANIEL LEVIN

General Motors

CIO RALPH SZYGENDA

IT Challenge: Successful management of GM's global outsourcing model.

The Payoff: Improves speed and agility for IT decision-making and execution, and increases engineering productivity.

Lessons learned: Don't rely on a single outsourcer for services; don't farm out management and IT architecture duties to a third party – keep them in-house.

INSOURCING VS. OUTSOURCING. It's the great debate these days for many IT executives who are struggling to cost-justify the most effective way to run their IT operations.

But experts say it's not a question of right or wrong, but of which strategy best fits a company's business model.

General Motors Corp. and Bank One Corp. answered the question by taking divergent paths. Along with the business rationales behind their strategic choices, the CIOs at the two companies offer up some of the tough lessons they have learned along their separate ways.

GM's Third Wave

For many people in the IT industry, GM has become synonymous with outsourcing. The \$186.6 billion auto giant purchased Electronic Data Systems Corp. in 1984 from Ross Perot and outsourced virtually all of its IT operations to the Plano, Texas-based IT services provider under a precedent-setting 10-year, \$40 billion agreement.

In 1996, GM spun off EDS to operate

as a stand-alone company and began redistributing some of GM's IT work to other services firms such as IBM, Cap Gemini Ernst & Young and Accenture Ltd. During its 12-year exclusive arrangement with EDS, GM encountered its share of problems in the relationship, but the automaker's commitment to an outsourced

model remains fervent.

"If you don't put a model in that works, it makes it look like outsourcing doesn't work," says Ralph

Szygenda, GM's CIO since June 1996. He insists that most companies that switch from an outsourced to an in-house approach "typically don't have the right model in place to manage outsourcing." As a result, they mistakenly end up blaming outsourcing as a discipline.

Szygenda acknowledges that "GM had done things wrong in outsourcing its work, but we changed the model; we didn't go back and insource." Early outsourcing mistakes that GM later corrected include contracting a single source for services and farming out management and IT architecture

responsibilities to a third party.

Today, in what he calls the company's third wave of outsourcing, Szygenda and his team of 1,700 IT employees manage GM's outsourcing relationships with a multitude of vendors, including all of the major outsourcing companies. The GM IT group also oversees the various vendors' relationships and alignment with GM's eight global operating groups and major subsidiaries, including GMAC Financial Services, Hughes Electronics Corp. and GM Locomotive Group.

During the first wave of outsourcing, by contrast, GM handed all of its IT activities over to EDS. "Pricing was too high because there wasn't any competition," says Szygenda.

Even if a single outsourcer has the best intentions to get the job done, there's no incentive for it to complete tasks within budget and scope, because there's no threat of it being replaced, he notes.

GM has also learned that it's a mistake to outsource strategic management of its IT environment and architecture to a third party, which is what it did under the original agreement with EDS. After Szygenda was brought in and launched the second wave in 1996, he brought strategic IT management and information systems architecture in-house to be driven by GM. Szygenda put in place two layers of IT management at the start of the third wave. These managers report to him and oversee GM's relationships with outsourcers and the business units that they support.

"Every CIO who reports to me has a budget that they're measured against," says Szygenda. The outsourcers all

**OUTSOURCING
WATCH**

All or Nothing

have to work within the framework that GM has devised, and while they're required to understand the GM businesses that they support, "they don't direct the business," Szygenda says.

Szygenda and his lieutenants believe that GM's existing outsourced model works well for a company its size because it brings the auto giant improved speed and agility for IT decision-making and execution. For example, before GM brought Kirk Gutmann over from Navistar International Corp. in 1997 to be global product development information officer, GM's global operations were bloated, the quality of its vehicles was sagging, and it was taking nearly four years for the company to bring a new vehicle to market.

By tapping into a group of specialty IT service providers, including Microsoft Corp. and Hewlett-Packard Co., and automating many of GM's operations, Gutmann has been able to help remove more than \$1 billion from GM's costs and reduce the time to market for GM vehicles to 18 months.

GM's revised outsourcing approach of deploying a wide variety of IT vendors instead of a single vendor such as EDS "has allowed us to shift resources more quickly," says Gutmann. Szygenda says it has also helped bring about double-digit gains in GM's engineering productivity, in part through GM's savvy use of technology.

GM has driven other hefty bottom-line benefits from its outsourcing model. In 2001 and 2002, GM achieved its first consecutive years of market-share gains in 25 years. The company has also cut \$800 million annually from its IT costs for the past seven years. Still, Szygenda is the first to acknowledge that GM's outsourcing model wouldn't work for all companies. "There is no one answer for any company. You have to go in and decide what is best for that company," he says.

Depositing IT at Bank One

Chicago-based Bank One has taken a considerably different approach to managing its IT operations. In 1998, it signed a six-year, \$1.4 billion contract with AT&T Solutions to manage the bank's voice and data networks and build an IP-based networking platform.

As part of that agreement, the bank also inked a seven-year, \$420 million pact with IBM to manage most of its data center operations, including help desk support. At the time, Bank One, then called Banc One, was in the process of merging with First Chicago NBD Corp.

Since then, a lot more than the name

Savvy Tips

■ An outsourcing model needs effective checks and balances.

GM compiles report cards for all the vendors it works with, grading them in 20 areas.

■ **Competition is key.** Using multiple vendors is critical to motivating them to strive for quality and keep costs down.

■ **Don't outsource control** of your company's IT architecture or business processes.

■ **Make sure that there's a strong business case** for outsourcing specific IT functions.

■ **Management controls** – including project tracking and management systems – are keys to success.

■ **One outsourcing model** won't work for every company.

has changed. The bank brought in a new CEO, Jamie Dimon, a tech-savvy veteran of Citigroup Inc., and CIO Austin Adams, the former CIO at First Union Corp. in Charlotte, N.C. The bank also negotiated to end its original contracts with AT&T Solutions and IBM before they were due to expire.

Today, Bank One is intent on maintaining a ratio of 90% in-house IT staff and 10% contractors, most of whom are application developers. Compare that with a 70%-to-30% ratio just two years ago. The key driver behind the change is the dramatic shift in the IT labor market since the go-go days of the dot-com craze, when Bank One was having trouble recruiting skilled IT workers.

"If we would have approached [IT and telecom workers] about working for a bank four years ago, they would have laughed at us," says Adams, who in March 2001 joined the bank, which has \$277 billion in assets. "The world has changed a lot in the last three or four years. We've been able to attract a lot of technology talent from firms that have been challenged over the last couple of years."

One of the key accomplishments under the insourced IT model was a \$500 million system conversion project that put all of the bank's transaction-related systems, including deposit, loan and treasury systems, on a single platform. The project started in 2001 and was completed in four stages, wrapping up in November 2002. The bank expects the conversions to help it cut \$200 million in annual operating costs, improve customer service and give it the ability to more quickly implement new products and services.

Adams insists the decision to rescind the outsourcing agreements with IBM and AT&T Solutions last year wasn't a result of dissatisfaction with

either vendor. In fact, the bank still does business with both, he says.

"It's not an issue with an entity; it's philosophical about how we want to do business," says Adams. "We feel strongly that technology is a key part of our company, and our ability to drive that is key and something that we want to more directly control."

It also has to do with containing costs. Adams says the business case for outsourcing those IT and networking functions no longer exists for Bank One. For instance, he notes that the incremental cost for a company its size to buy hardware, software and services directly from manufacturers and service vendors "is significantly lower" than the premiums it would have to pay an outsourcer to provide those resources.

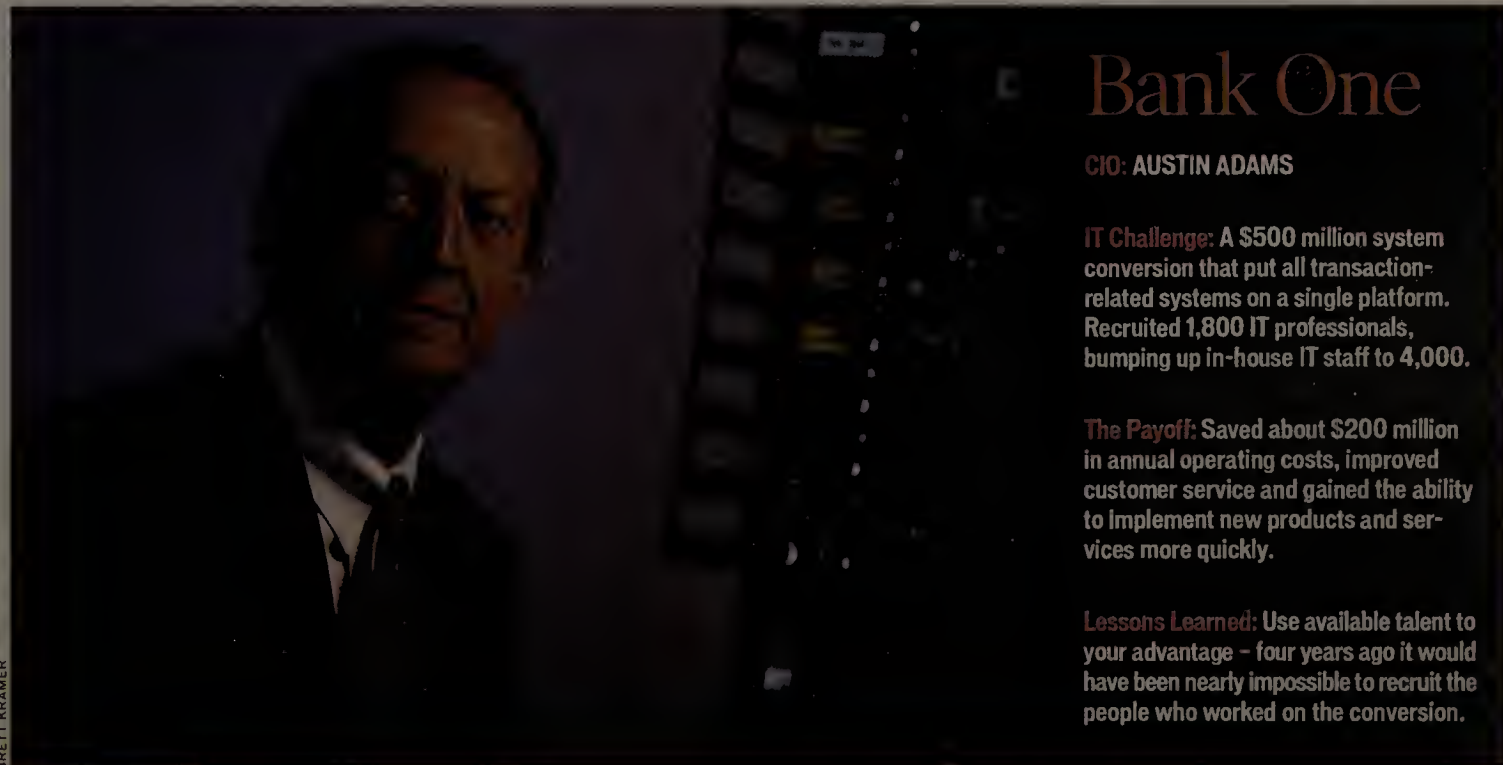
Adams acknowledges that there's a lot of divergence among CIOs over outsourcing. In Bank One's case, he says, "we have a CEO who's very technology-literate and very supportive of us and our ability to manage this space." That helps explain why Bank One has recruited 1,800 IT professionals during the past 17 months, bringing its IT staff to 4,000 people.

Although Adams and Bank One remain committed to insourcing, he wouldn't rule out outsourcing some of its IT functions under the right circumstances. "I wouldn't bury my head in the sand if there was a better value proposition," he says. "It isn't a philosophy embedded in stubbornness but more about the environment and the business case and the economic conditions." ▀

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Bank One

CIO: AUSTIN ADAMS

IT Challenge: A \$500 million system conversion that put all transaction-related systems on a single platform. Recruited 1,800 IT professionals, bumping up in-house IT staff to 4,000.

The Payoff: Saved about \$200 million in annual operating costs, improved customer service and gained the ability to implement new products and services more quickly.

Lessons Learned: Use available talent to your advantage – four years ago it would have been nearly impossible to recruit the people who worked on the conversion.

Predictable Surprises

Here's how to spot IT disasters in the making

Q&A

"You're never too old to be surprised." That was the response of

then-Chairman Jack Welch when the European Commission vetoed General Electric Co.'s proposed \$42 billion acquisition of Honeywell Inc. in 2001. But Michael D. Watkins, an associate professor of business administration at Harvard Business School, argues that Welch had no business being surprised. In an article in this month's issue of Harvard Business Review, Watkins and co-author Max H. Bazerman posit that the institutional blind spots that scuttled Welch's deal are common throughout business and government. Watkins told Kathleen Melymuka how those same flaws can blindside an IT manager to disasters he should have seen coming.

What's the difference between a true surprise and a problem that could have been predicted? There are many surprises that are bolts from the blue and can't possibly have been predicted. But if you ask senior managers in all kinds of companies whether there are problems they know about that probably are going to get worse and have the potential to flash into major disasters, the answer almost invariably is yes. Should a reasonable leader have recognized, prioritized and mobilized against the problem? If the answer is no, then hold

them blameless; but many problems can be identified and dealt with.

You found three common causes of failure that can help managers avoid predictable surprises. What are they? The causes are psychological, organizational and political. Psychological vulnerabilities are flaws in the way people interpret information and make decisions. There's a well-understood tendency, for example, to exist in a state of denial, to stick with the status quo because it's comfortable or because you think that something with a very low probability is never going to happen.

Can you give an example? The Slammer worm. This was a well-recognized vulnerability

in systems. The patch had been available forever. But apparently many IT managers did not do what was necessary to deal with it. It was an entirely predictable surprise.

As an IT manager, how would I recognize psychological bias in my IT department? People tend to harbor illusions that things are better than they are: "We'll get by." It can become a group rationalization. Watch out when you hear people say, "We think it's going to be OK."

If I hear that, what do I do about it? Push back hard: What if it isn't OK? Test the assumptions people are making. Do they hold up? What have they done to test them? Make sure they're not giving undue weight to evidence that supports their preconceptions. Discover what's beginning to happen that, if left unchecked, will be a big problem. Take preventative action. Put on

your "myself-a-year-from-now" hat and ask, "What will I be sorry for if I don't do?"

Tell me about organizational vulnerabilities. Those have to do with the way an organization processes information and puts together a picture of what's going on. The key problem is a tendency to silo information. Different people have different pieces of the puzzle, but they never get put together until after the fact. The 9/11 disaster is an example.

What can I do about organizational vulnerabilities? You need a mechanism for sharing information. Sometimes, it requires a cross-functional team put in place to look at emerging issues and trends. The best antidote is a leader forcing a certain kind of information integration that doesn't normally happen.

And what about political vulnerabilities? Political issues have to do with the ability of focused, dedicated special interests to advance their causes or prevent action at the expense of broader interests. In IT, it could be some group absolutely dedicated and focused on preventing having some legacy system taken away. They could be concealing information to protect a piece of overall architecture that is ripe for disaster. They're not going to let you touch their baby till something blows up.

How do you recognize that? Any time you have a fiefdom, you get into this. People are willing to suboptimize the whole in return for a legacy system getting protected too long. They can actually prevent implementation of surprise-avoidance.

What can I do? Look hard at incentives, and figure out how to alter them so people have more of a reason to cooperate. People often feel if they don't protect what they're working on, their own performance will suffer. You have to convince people to look more broadly, and you have to punish empire-building. If people are let-

ting politics get in the way of the overall organization, you have to clamp down hard.

You recommend some practical "surprise-avoidance initiatives," the first being to ask people what dangers they see brewing. Isn't that obvious? Yes. But it's surprising how seldom people do it, and it's not obvious how you go about doing it. You need to get the right group and get them to work through an exercise, and that's not easy to do.

Why not? Really focusing on problem-avoidance means taking time away from productivity. It's hard to carve out time to engage in that. People see it as a luxury they can't afford right up to the point where they're spending 24/7 dealing with some disaster that was foreseeable.

Once you've identified surprises in the making, how do you prioritize them? You array the threats and look at [their] likelihood and costs and multiply those. Sometimes, that doesn't catch very-low-likelihood but high-cost threats, so it gets back to incentives. You need to create a structure where others see it as in their interest to attack these threats. Put people on notice that if they fail to prevent a preventable problem, they'll be held culpable.

Why is coalition-building important to confront threats effectively? Unless you've got full authority, which never happens, you're in the world of coalition-building. As an IT manager, if you see an emerging problem and you also see organizational resistance to tackling it, you've got to find the pocket of people who agree with you. Ask your customers what would happen if XYZ were to occur. Build momentum around an initiative to tackle the problem. ▀

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This is the latest in a series of monthly discussions with Harvard Business Review authors on topics of interest to IT managers. For more, go to QuickLink 35837.

Should You Have Seen It Coming?

Harvard Business Review article co-authors Michael D. Watkins and Max H. Bazerman offer a process called RPM — recognize, prioritize, mobilize — to head off predictable IT surprises. RPM can also help you determine whether you should have been able to predict an unpleasant surprise.

■ **RECOGNIZE:** Did you use your resources effectively to scan the horizon for new or emerging threats, and did you properly analyze and interpret the data gathered?

■ **PRIORITIZE:** Did you perform a careful analysis of the probability and potential cost of each threat, giving high priority to those with the highest impacts?

■ **MOBILIZE:** Did you deal with the threats in a way commensurate with the risks involved and the resources you could bring to bear?

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BRIEFS

US Airways Keeps EDS

US Airways Group Inc. has accepted a revised outsourcing contract with Electronic Data Systems Corp. that it had threatened to cancel. Terms of the new deal weren't disclosed. Under a 25-year contract signed in late 1997, EDS provides the airline with data processing and telecommunications services for reservations, ticketing, baggage tracking, and flight and data security. The original agreement was valued at about \$200 million per year. US Airways, which has been under Chapter 11 bankruptcy protection since August, had accused EDS of failing to honor the contract's "most favored customer" clause by providing better terms to American Airlines Inc.

IT Spending Sluggish

According to recent survey results from Forrester Research Inc., only 27% of North American IT decision-makers said they will increase their staffs this year. And although 35% said they will increase IT spending by an average of 1.9% in 2003 — a decline from 2.3% in 2002 — the amount of IT being outsourced will inch up from 13% last year to 16% for 2003.

Including first-time purchases and upgrades, will your company invest in the following during 2003?



BASE: 877 IT DECISION-MAKERS AT NORTH AMERICAN COMPANIES

BART PERKINS

Look Before You Leap to Outsource

MOST MAJOR CORPORATIONS are considering outsourcing everything from the corporate cafeteria to IT and beyond. Outsourcing is often touted as an easy way to achieve more functionality for less money, with less aggravation.

But how do these deals actually turn out? Customer-satisfaction researchers at a major IT outsourcer report that most outsourcing relationships deliver less-than-expected results, often leaving both sides disillusioned by the end of the first year.

If you want to pull the plug on your outsourcing deal, be aware that doing so is difficult and expensive at best — outsourcing is primarily a one-way street. You can avoid many outsourcing pitfalls by doing your homework before you negotiate a contract:

- 1. Define explicit outsourcing boundaries.** Many outsourcers will try to persuade you to outsource most or all of IT. Most corporations are willing to outsource commodity functions, but not the areas that give the corporation its competitive advantage. Don't allow yourself to be pushed into outsourcing more than you have determined is appropriate. And never outsource one piece at a time without a master plan.
- 2. Understand your motives for outsourcing.** Before entering into an outsourcing agreement, ruthlessly assess your motives. Are you primarily seeking to cut costs, improve service or allow management to focus on the business? Or has your company simply decided that IT isn't a core competency and just wants to get rid of the aggravation? Being clear about your reasons will

allow a fair evaluation of the outsourcing deal after the first year.

- 3. Carefully analyze and understand your cost structure.** Identify and remove inefficiencies before outsourcing; otherwise, only your outsourcer will benefit. Evaluate your cost structure in sufficient detail to have leverage over your outsourcer. Beware of any outsourcer that offers to cut your costs $x\%$ without doing any analysis!

And if your outsourcer uses the new "utility" pricing for on-demand computing, make sure you

understand all the implications — there's not a lot of industry experience with it yet.

- 4. Analyze the total cost of outsourcing.** Before you weigh the price of outsourcing against your current costs, start with the outsourcer's bid, then add the costs of preparing and evaluating a request for proposals, the migration/switching costs and the cost of managing the outsourcer.

- 5. Assess the hidden effects of outsourcing.** Outsourcing imposes discipline on your organization. Shifts in architectural direction can be more difficult. Unplanned changes become expensive and may not occur in the time frame you desire. Adapting to the rigorous processes required by an outsourcer may be difficult in some corporate cultures.

- 6. Closely examine security and privacy.**

The new cyberdisclosure laws will essentially make security breaches at your outsourcer equivalent to security breaches at your own company. You will be equally responsible whether your customers' data is compromised, stolen or hacked at your site or the outsourcer's site. Your exposure and liabilities are significantly multiplied — investigate carefully.

- 7. Communicate honestly with your staff.**

Outsourcing generates apprehension, and rumors will fly. Unless you have a compelling message and communicate candidly, your best people may walk out the door.

- 8. Design a viable exit strategy.** Supplier failures are occurring at an alarming rate. Explore options and fallback positions before you need them.

- 9. Make sure initial stakeholders on both sides remain accountable.** Many outsourcing arrangements fail because the original stakeholders disappear and their replacements are often far less committed to the deal.

- 10. Consider offshore options.** Advances in communications technology have made offshore outsourcing increasingly viable. Costs can be significantly lower. But understand the impact of international travel, language difficulties and time-zone differences on your business.

The foundation of successful outsourcing is clearly understanding what you are outsourcing and why. Outsourcing can be an excellent solution, but it's not a panacea. Don't follow the outsourcing lemmings blindly over the cliff. Make sure you fully understand what, why, when, where, who — and how much. ▀

OFFSHORE OUTSOURCING

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BART PERKINS is a managing partner at Leverage Partners Inc. in Louisville, Ky., which helps CIOs manage their IT suppliers. He's the former CIO at Tricon Global Restaurants Inc. and Dole Food Co. Contact him at BartPerkins@LeveragePartners.com

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Technical Support Specialist sought by **Stonebridge Hospitality Assoc's** w/Bach in Comp Sci/Eng or related field w/2 yrs exp. Respond by resume to HR Dept, 9100 E. Panorama Dr, #300, Englewood, CO 80112.

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System Administrator wanted to install, configure, support and maintain networks. Bachelor's degree in a Computer related field and 2 yrs. experience in job offered or in Systems Administration in a Telecommunication environment. Experience must include TCP/IP, Ethernet and SQL. Please e-mail resumes to Rebecca.gustamente@radianz.com (subject: Code 0313).

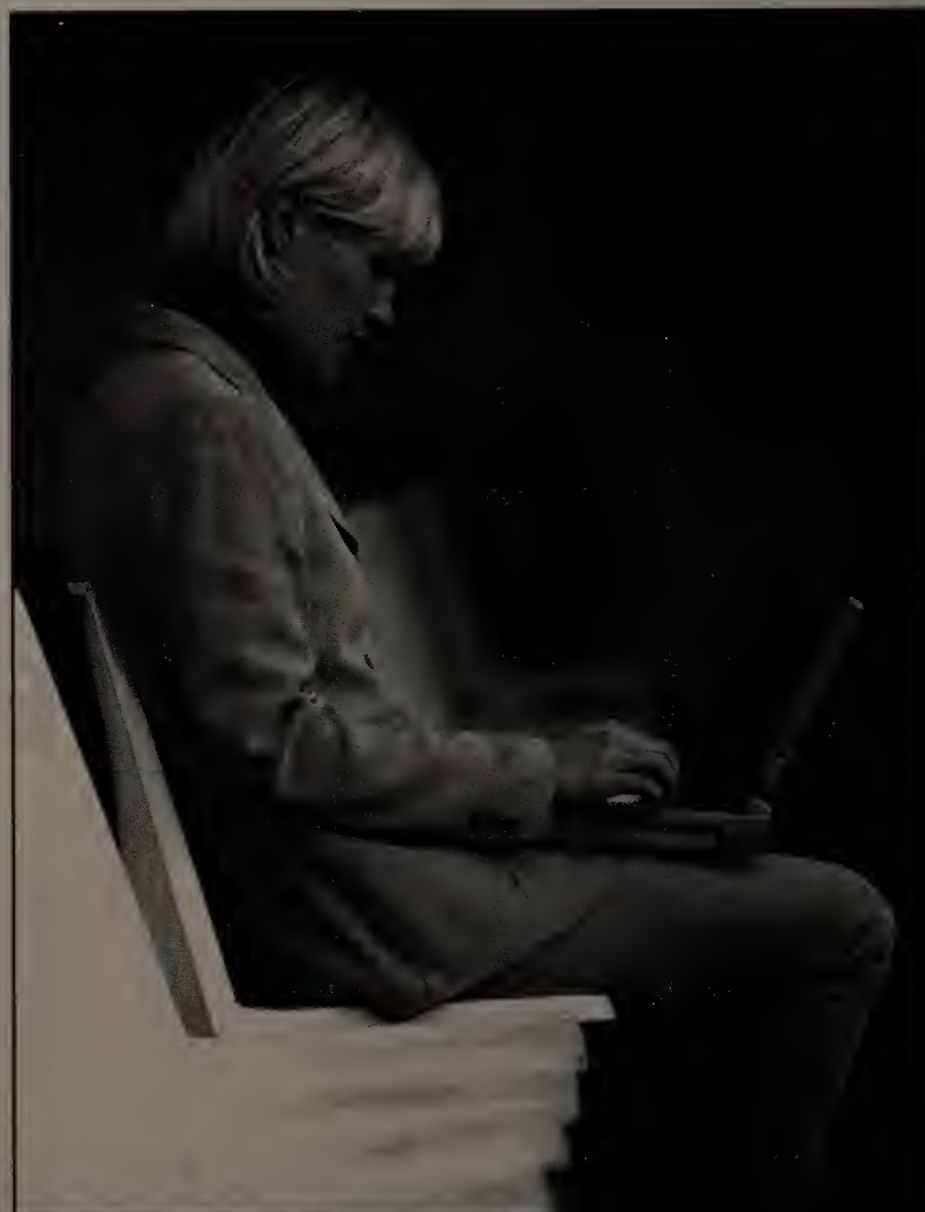
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Senior Network Administrator. Plan, direct, support Management Information System including daily operation of Sun Solaris UNIX Server, Microsoft Windows 2000 Advance Server, IBM AS400, Citrix Metaframe and all network devices and database programs for Athens, GA plant. Must have: BS in computer science, eng'g, or business administration or related field and 2 yrs exp in job offered or in Computer Operations Analysis or related field. Respond to HR Manager, 425 Athena Drive, Athens, GA 30605 Refer to Code: AR. No job placement agencies need to apply

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Sr. Programmer/Business Analyst (Chicago, IL) Participate in architectural design and use case analysis on web-based mgt info syst. w/ Oracle/Win2000 env. using PL/SQL, VB, TOAD, MS Project and Rational Robot; interface b/t info tech and business groups to identify user needs, prepare busi. requirement documents, and develop project packages applying JAD and RAD. Requires BS in Com.Sc., Engr. or MIS plus 3 yrs. exp. Full-time/competitive salary. Resume to: HR NetEffects, Inc., 500 Chesterfield Ctr., Ste.350, St. Louis, MO 63017

SR. SOFTWARE ENGINEER sought by Graphic Enterprises of OH to dvlp & support s/ware prodcts for newspaper industry using Win NT/2000/98/95, SQL, C/C++/Visual C++, COM/ATL, MFC, VB, VBScript, Visual Studio.NET, Java, JavaScript, Win 32 APIs/STL, HTML, XML & HTTP. Deg in Comp Sci/Engg & significant work exp req'd. Send resume to HR, Graphic Enterprises, Inc., 3874 Highland Park NW, North Canton, OH 44720.

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System Admins to install, maintain, administer Windows NT, Linux, HP-UX, SCO/Solaris; plan, implement, maintain and troubleshoot LAN/WAN installations; manage networking protocols such as TCP/IP, IPX/SPX, etc; install, upgrade network computer hardware/software. Systems Analysts to analyze, design appls using Java, VB, Oracle, SQL Server, ASP, Active X, HTML/DHTML, JavaScript, etc. under Windows OS; write triggers and stored procedures to account for business processes; perform req. analysis; develop user interface, reports. Require: B.S. or foreign equiv with conc in CS/Science/Engg. (Any branch) and 2 yrs of exp. in IT. Travel involved. High Salary. F/T. Resume to: Radiant Technologies, Inc., 335 Majestic cove, Alpharetta, GA 30004

IT Developer 3, Charlotte, NC, Wachovia Corp. Create doc, detailing hardware & software infrastructure, interdependencies of each component & IVR appl. dev. standards for EIVR environ. Reqs. BA in CIS & 3 yrs exp. in the pos. off. or Software Eng. or Comp. Consultant. The 3 yrs reqd exp. must incl. work w/IVR application design, dev., implementation & work in high-volume call center (2-3 million calls/mos.). 1 yr. of reqd exp. must incl. IVR sys. w/PBX switches (i.e. Cisco/Geotel ICM, Aspect ACD, SL1, SL100 & AT&T G3) & IVR sys. w/SpeechWorks ASR software or similar software package. M-F, 8-5, Send resume to Randall Buck, Wachovia Corporation, 1525 West W.T. Harris Blvd, NC 0775, Charlotte, NC 28262-0775. No phone calls.

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This individual must be highly organized and used to working under tight deadlines while working on multiple, overlapping projects. The News Media Manager will work closely with News Producers and Management to ensure the timely and accurate production of newscasts, special reports and special segments. Prior supervisory experience preferred.

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Software Engineers needed. Seeking candidates possessing MS/BS or equiv. and/or rel. work experience. Part of the req. rel. work exp. must include 1 year working with Java, ERP & CRM. Duties include: Research, design and develop oracle databases; Analyze software requirements and provide technical support to client websites. Experience with EDI and EIP are a plus. Mail res. & ref. to: Adept Computer Consultants, 1010 Harmon Blvd., Hoffman Estates, IL 60194.

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Computers-Project Leaders needed. Requires BS degree or equivalent and/or relevant work experience. Experience must include two years working with Java, OSS and Tandem. Duties include: Plan, direct and coordinate activities of projects; Analyze business requirements and resolve technical problems. Experience with ASP, NET and SQL are a plus. Mail res., ref., and sal. req. to: Opus Software Solutions Private Limited, Inc., 1480 Route 9 North, #203, Woodbridge, NJ 07095.

Software Engineers with interactive business applications, client-interface extranet & multi-tiered architecture experience to work in our Burlington, MA office. Send resume to Jay R. Smith Mfg. Co., Attn: HR Mgr., Req#5565, P.O. Box 3, Montgomery, AL 36109-0237 or online to mike.polis@jrsmith.com with Req#5565 in subject line. EOE.

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Companies

ministrator at Tessy Plastics LLC in Lynchburg, Va., said a lack of funding has forced him to buy used equipment to back up his systems. "We've implemented a used tape drive on our main server and do good backups," he said. "If I had to purchase the stuff new, I couldn't have done it. ... Right now, money is tight."

And Ervin isn't alone, according to a study released last week by Dataquest Inc. in San Jose. The study, "Investment Decisions: Preparing for Organizational Disasters," found that IT managers from 205 companies representing eight vertical industries in the U.S. aren't investing appropriately in disaster plans because of inadequate budgets.

"Budget constraints are forcing an average of 40% of respondents to rely on a best guess to determine potential risk rather than obtaining formal assessments, which would be too costly," said Tony Adams, principal analyst at Dataquest's IT Services group.

"Preparation is key, and without adequate investment for protection of critical systems, the repercussions of disasters will be lengthier and more costly," he said.

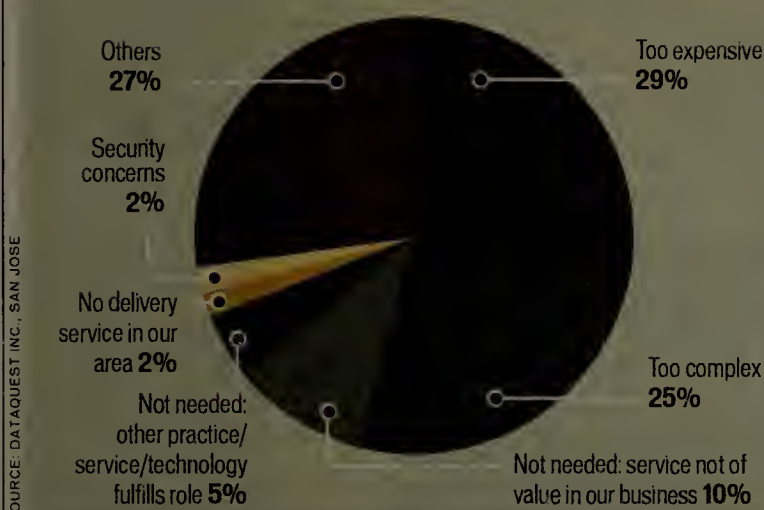
A security manager at one of the nation's largest banks, who spoke on condition of anonymity, said the sheer size of his company means that departments report to various executives and require differ-

Correction

In the Newsmaker Q&A in last week's issue, Qwest Communications International Inc., which sold its application service provider division to Corio Inc. last fall, was misidentified as Quest Software Inc., a maker of application management tools.

Why Disaster Planning Isn't Funded

Reasons for not investing in specific business continuity/disaster recovery practices



SOURCE: DATAQUEST INC., SAN JOSE

ent levels of certification by third-party disaster assessment firms. As a result, "business continuity planning is as the business sees fit," the manager said.

Moreover, it's difficult to show the return on investment from hiring third-party firms to certify disaster recovery processes and assess risk, he said. "Companies in this space came off as if they're looking for big dollars to tell you what you already know. We all see

the best-practice picture at the end of the tunnel, but we choose due care and sound business decision processes to get to that end," he said.

In any case, crisis management plans have been implemented at 53% of the sites that responded to the Dataquest survey, and an additional 30% that don't already have plans are considering developing them, according to the study. But 17% of respondents said that they don't foresee devel-

oping any such plans.

"It could be merely that clarity about the aim and function of crisis management is needed," according to the study. "It could also be explained in terms of the IT systems not being deemed mission-critical in importance."

In fact, only 10% of companies said they always evaluate new initiatives in terms of business continuity.

Susan Bradley, a security manager at Tamiyasu, Smith, Horn and Braun Accountancy Corp., an accounting firm in Fresno, Calif., said the small to medium-size business community is never proactive when it comes to ensuring business continuity.

"We don't plan. We don't assess. We don't analyze. We don't test. We don't plan on redundancy," Bradley said. The Dataquest survey indicates that many large companies aren't doing much better, she added.

Although the Dataquest study focused on the responses and plans of IT managers, John Keast, chief operating officer at SEEC Inc., a Pittsburgh firm that develops software for the insurance and fi-

"We don't plan. We don't assess. We don't analyze. We don't test."

SUSAN BRADLEY, SECURITY MANAGER, TAMIASU, SMITH, HORN AND BRAUN ACCOUNTANCY CORP.

nance industries, said that although the CIO designs and implements the plan and likely orchestrates its execution during a disaster, the ultimate responsibility for focusing the appropriate resources on disaster recovery and continuity of operations planning rests with the CEO, the chief operating officer and the board of directors.

"Losing data that affects business operations is avoidable and unacceptable," said Keast. "So CEOs and COOs must make it their priority." ▀

ROLE-PLAYING

A mock disaster scenario was played out at Computerworld's recent Premier 100 conference. To read about the results, visit our Web site:

QuickLink 36860
www.computerworld.com

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States

"That's pretty significant," Kane said.

McLean, Va.-based FSI, a research firm for the business-to-government market, said IT spending in the states will reach \$40.7 billion in the next fiscal year, an increase of less than 2% over this year. And as they continue to scrape for IT funding, more states are appointing enterprise architects to map out IT and business process strategies.

Two years ago, only two states had specifically appointed enterprise architects. Since then, the number has climbed to 22, said Gerry

Wethington, Missouri's CIO and president of the Lexington, Ky.-based National Association of State Chief Information Officers.

Enterprise architecture is a process for defining IT and business process principles and standards. It's also used by federal and state governments to integrate and consolidate IT infrastructures that have been built agency by agency in a stovepipe fashion, without coordination.

Wethington said his state's use of enterprise architecture planning has given him the means to set common standards and battle agencies accustomed to making their own IT decisions. "If I had not had that chief architect ... I would

have had eight to 12 different agencies fighting for their turf," he said, referring to a particular help desk consolidation project. "I can over-

come turf," Wethington added.

The states are also being pushed into using enterprise architecture by the Bush administration, which wants interoperability with state systems, said Howard Stern, senior vice president of FSI.

One IT manager who says she has solved the problem of redundant systems consolidation is Cathy Maras-O'Leary, CIO of Cook County, Ill. The second-largest county in the U.S., Cook County centralized storage, mainframe and network support for 150 agencies.

"You're not duplicating cost," Maras-O'Leary said. Moreover, she added, "e-commerce for us can be very easy because all our data is residing on our architecture." ▀

No Bonanza

Federal Sources Inc. warned IT vendors that homeland security won't produce a federal spending spree because Congress has yet to determine what to fund.

STATE FUNDING: In fiscal 2003, states received \$2.5 billion for homeland security needs; that's expected to rise to \$2.6 billion in 2004.

WHERE IT'S GOING: Communications, criminal justice integration and systems for detecting and controlling harmful agents.

*Most state fiscal years begin in July.

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HAS YOUR SENDMAIL BEEN PATCHED? Are you sure? If the answer is no, stop reading this and get it taken care of. Not later today. Not later this minute. You're already a week behind, and hackers have had exploit code working since last Tuesday. There are no work-arounds. Your firewall won't protect you. Your virus scanner won't protect you. A properly patched sendmail server that's upstream from your site *will* remove the fangs from a malicious e-mail message that exploits this security hole — but do you really want to depend on the kindness of strangers?

You can't afford that risk. So find out. And if you have sendmail systems that haven't been patched or upgraded, do it right now!

How bad is this mess? Between 50% and 75% of all e-mail on the Internet is handled by sendmail servers. The bug that creates the security hole is about a decade old, which means if you're using sendmail, you *do* have the bug.

And since it took less than 48 hours for two separate groups of hackers to come up with working attacks on this security hole after it was officially announced, you can reasonably expect attacks to show up on the Internet pretty quickly, too.

Worse still, you may already have been hit by one. A successful attack won't leave any evidence on your system log. Which means someone who's just testing the technique may already have tried it on your unpatched sendmail systems, and you have no way of knowing.

The good news — yes, there is some good news here — is that this is one very subtle security hole. It's no simple buffer-overflow problem, like so many we've heard about. In this case, the buffer that lets the bad guys in is checked to make sure it doesn't overflow. Trouble is, there's a bug in one of the checking routines. And if a bad guy exploits that coding error — but *only* if the bad guy knows *exactly* how to exploit that specific coding error — sendmail is vulnerable.

Which explains why it took 10 years for anyone to spot the problem, and why it was Internet Security Systems in Atlanta that spotted it, not some malicious adolescent in his bedroom. The problem was buried deep in code that has been

available to security experts and nasty crackers alike — and until now, no one spotted it.

That's how far we've come on security: We now have so many researchers digging so deep and looking so carefully that we're finding security holes we once would have called unfindable. We're no longer finding bugs just in newly released software. We're finding and fixing the flaws deep in the bedrock of our IT infrastructure. And that makes us much safer.

But ironically, the older and more tested and trusted a piece of software is, the more widely used it's likely to be. That means when these new deep searches for security holes turn something up, the potential impact is huge. Until that widely used software is widely patched, we're at risk — in a big way. Which is why, more than ever, none of us can afford any delays in finding the security holes in our systems — and closing them.

So make it a priority. Subscribe to a security service if you think you need it. If you don't, put someone on your staff in charge of scanning security sites and news groups for patches you need to install.

Then come up with a plan to implement those patches and fixes fast. And make sure the most critical of them can be implemented on an emergency basis.

Because finding deep, fundamental security holes like the one in sendmail really does make us safer. But the price of better security is greater risk — at least until we apply those patches. ▀



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But It's Better Than the Fax

IT pilot fish is suddenly responsible for phone service, so she asks long-distance provider for a list of phone numbers currently getting service. And gets it — as a blurry 29-page fax. Could you please send it in electronic form? fish asks. "An hour later, I received an e-mail with the file attached," says fish. "It was a Word document with 29 pages of screenshots of the spreadsheet containing our phone numbers."

There's Two?

This user complains she can't log on — her Shift key isn't working. True enough, says pilot fish, the left-hand Shift key on her laptop is dead. Is your other Shift key broken too? fish asks. "Other Shift key?" says user blankly. "Oh!"

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panels that might block the way, I shook the printer casing and set it on the

floor — after which the mouse left the printer."

That Seems Clear Enough

Pilot fish sends self-loading update CDs to field staff every month. But this time, it's more complicated, so fish includes a note that says in big, bold letters at the top, "You *must* follow these instructions!" Says fish, "I've had about 20 calls that go like this: Have you got the instructions? Yes, I have them in my hands. Have you read them? Click. Dial tone. So far, none have rung back for further instructions."

Where Great Ideas Come From

Consultant pilot fish is on the phone with vendor's support tech, but having trouble — tech keeps throwing out the vendor's internal jargon instead of industry-standard terms. Maybe you could write a dictionary of your terms and customers could study it to make these tech support calls more meaningful, fish suggests sarcastically. "That's a great idea," tech chirps. "I'll talk to my boss about it!"

Could Be . . .

This intranet application ran fine for two months, but now it's crashing the server, so pilot fish opens an error ticket. Four days later, server admins return his ticket marked "Solved," adding, "We watched the error log for four days, and no further entries were written into it, so we assume the problem has disappeared." Sighs fish, "Is it possible that's because the application has not been running for four days?"

Why Not Oil It?

This printer has a paper jam, and it's squeaking too, user tells help desk pilot fish. "What I found when I got there wasn't what I expected," fish says. "A mouse had made the printer casing his home and was partially caught in the rollers. After carefully removing all doors and

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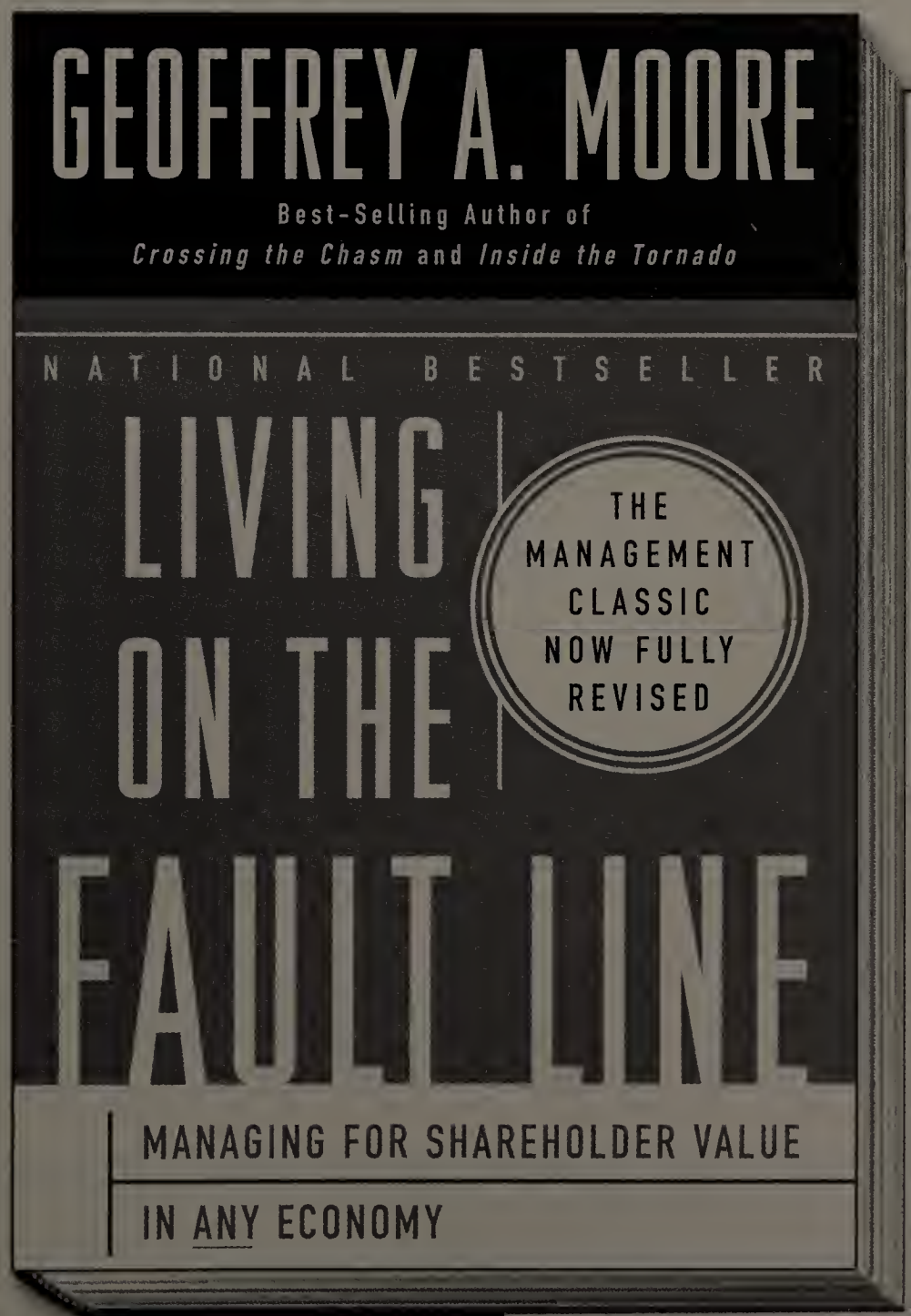
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